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MODERN THERAPEUTICS

OF THE

DISEASES OF CHILDREN,

WITH OBSERVATIONS ON THE HYGIENE OF INFANCY.

BY

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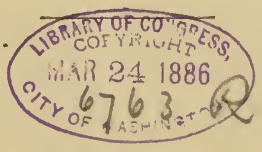

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PREFACE.

It is the purpose of this work to present in a concise manner the results of the modern applications of therapeutics (in its wider sense) to the Diseases of Children. As in the other numbers of the series of which this volume is a part, the effort is made to give the details of the treatment of the most eminent specialists in this branch, both American and foreign. Journals, monographs, and treatises on the subject have been carefully scanned, so as to glean both that which long experience has proved to be advantageous, and that which recent discovery has introduced with a fair promise of value.

No similar work of anything like this extent has ever been published devoted to this particular field, and it is hoped that the profession will find in these pages suggestions of practical utility, and a trustworthy adviser in combating disease.

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GENERAL REMARKS

ON

THERAPEUTICS OF CHILDREN.

DR. EDWARD HENOCH, OF BERLIN.

This author in his work "*Lectures on Diseases of Children*" gives some very important and valuable points on the therapeutics of infancy and childhood. He says that the conditions of life in early childhood are of such a nature that even the most rational and faithful treatment of its diseases is useless in an extremely large number of cases. Even the most persistent study and ripe experience will not save you from disappointment in reference to therapeutic results. The enormous mortality, especially in the first six months, is explained by two sets of causes, the first of which is found in the natural development of the child, the second in extrinsic circumstances. While children of the upper classes, who are carefully nourished, more readily pass through these developmental changes, they are apt to become pathological under the adverse circumstances to which the lower classes are subject. The foul air of narrow, crowded rooms, the more or less improper food, the influence of cold, hunger, the lack of natural care—all these influences tend to impede the natural course of development, and to produce the harrowing pictures of disease with which we come in contact. Many of these unfortunate beings carry with them the seeds of death, and die of exhaustion the first few days after birth; others succumb to hereditary syphilis; the majority become puny on account of persistent diarrhœa, or repeated attacks of bronchitis, with enlargement of the bronchial glands, which finally leads to cheesy degeneration and general tuberculosis.

The examination of the urine is very difficult in the new-born and

nurslings, as it is always passed into the diapers, and an estimation of its quality and color is very uncertain. But in some cases it becomes necessary to examine for albumen or sugar, and the urine must therefore be gathered in special vessels (in girls, in well-cleaned sponges placed in front of the genitals; in boys, in condoms or rubber bags fastened around the penis), or by the introduction of an elastic catheter.

Vigorous, continued crying, which does not excite a coughing spell, is a favorable sign in diseases of the respiratory organs, because it indicates a comparatively slight degree of irritation of the respiratory mucous membrane. Loud crying spells, with vigorous movements of the lower limbs, especially flexion on the abdomen, usually, in nurslings, indicate colic pains. Writing of the *atrophic conditions of children*, this author lays great stress upon the most important factor of *nutrition*. If vomiting and diarrhœa are constantly recurring in an infant, no time should be lost in securing another nurse. He makes the condition of the child his criterion in judging of the suitableness of the milk it is receiving, relying but little upon chemical or microscopical examination. During the first three months, the proportion of milk to water should be as 1 to 3, in the second three months as 1 to 2, and in the third half and half. After the ninth month, you may give two parts of milk to one of water, or undiluted milk; both the milk and water used, should be first boiled, in order to destroy any fermentation germs that they may contain. When cow's milk cannot be used, he gives the next place to condensed Swiss milk. During the first three months, one part of condensed milk is given to twenty-two parts of water, from the third to eighth months, one to eighteen, and later one to twelve. Oat-meal or barley water may be used as the diluent. After the tenth to the twelfth week he recommends Nestle's flour as a very suitable article of diet. One tablespoonful may be boiled with nine or ten tablespoonfuls of water. Nothing need be expected from the use of drugs in the treatment of atrophy, except when complicated with diseases of the respiratory organs or intestinal canal.

DR. ARMAND SEMPLE, OF LONDON.

This author in his work on "Diseases of Children," gives us some valuable points in reference to the

CLINICAL EXAMINATION OF CHILDREN.

Inspection.—If the child is asleep:

Note the attitude, whether the posture is natural or the reverse.

The color of the face. Is it pale or flushed?

The color of the lips. Are they livid or white?

The condition of the skin. If it is moist or dry, and whether limited to the forehead and head, or is it general?

The expression of countenance. Is it natural or indicative of pain?

The action of the alæ nasi. Are they quiet or twitching. Is there any moaning, starting or grinding of the teeth?

The respirations. What is their number?

Are the eyes staring, closed or partially closed? The state of the fontanelles. If they are open or closed, retracted, distended, or strongly pulsating.

The pulse under two years should vary from 90 to 130, but consistently with health after three years it is seldom above 100. Although not more than 70 it may still be healthy. The absolute number of beats is of slight importance; but a slow pulse in a child is a serious indication. The shape and size of the head must be observed, if this part is hot or large, or presenting enlarged veins.

If the child is awake:

Is it smiling or frowning, is it excited or quiet, languid or fretful, are the eyes surrounded by a dark circle? Is there any suffering?

An infant in perfect health should sleep 20 hours out of the 24. It is, therefore, important to discover if a child's illness began with broken rest or sleeplessness.

Upon stripping a child, the following appearances should be noted: the surface of the skin should be mottled, the flesh firm, the skin elastic to the touch, and smooth, never flabby, the legs and arms should move with freedom. The joints should be examined, whether large, small or swollen. The respiration in a child from 1 to 3 years of age should be 24 to 36 per minute, and in their character diaphragmatic. The chest walls should not recede in an ordinary respiration. Eruptions should be looked for, especially around the anus. The stools of an infant should be yellow, and the motions passed three or four times a day. The gums should be examined, whether hot, swollen or otherwise. The first incisors should be present by the 7th month, the first molars by the 12th, the canines by the 18th, and the second molars by the 20th month.

A child seldom lifts its head from the pillow until about the second month; it is unable to sit erect until the 4th or 5th month.

The Respirations.—In a child, the respirations vary, per minute, from 30 to 50. The actual average in infancy is 39. From 2 months to 2 years, the respirations are about 35. From 2 years to 6 years the respirations are, during sleep, 18; awake, 23.

From 6 to 12 years, the same.

When practicable, both the front and back of the thorax should be examined; but the back of the chest in the sick child is the most important part to examine, and auscultation should be performed before percussion.

If the back presents no indications of bronchitis or pneumonia, it is very improbable that the front of the chest will show any.

Dullness posteriorly on the right side is a normal physiological state, due to abdominal pressure, by which the abdominal viscera, and, upon the right side especially, the liver, are pressed upwards.

The Expression of the Countenance.—The *lower* part of the face suffers chiefly in abdominal disorders, the cheeks are sunken and puckered, the lips are pale or livid.

The *middle* parts of the face are altered by lung and heart affections, the nostrils twitching, distended or sharp. There are dark rings under the eyes, and a blue circle round the mouth.

The *upper* part of the face is mainly affected in cerebral diseases, producing contraction of the forehead, knitting of the brow, and purposeless, rolling, or fixed eyes. In addition to the above signs must be noted, pallor or redness, unequal dilatation of the pupils, and ptosis.

Gesture.—This is often of significance. In abdominal diseases the child draws up the legs, and picks at the clothes; the face is anxious and sunken. In cerebral disease, he puts the hand to the head, beats the air with uncertainty, rolls the head on the pillow and pulls at his hair.

In severe dyspnœa the child clutches at its throat, or puts the hand in the mouth, when the tongue is much furred or when a false membrane is forming.

The Cry.—This varies. It is labored or choking in capillary bronchitis or pneumonia. In brain disease it is sharp and shrill; characteristic in acute hydrocephalus (the "hydrocephalic cry"). In laryngitis it is metallic or brassy, and in tubercular peritonitis or marasmus it is wailing or moaning. Crying for several hours, always indicates one of two condition—hunger or ear-ache. A cry which precedes defecation,

or is accompanied by writhing or wriggling is intestinal. A dry, low, peevish cry attending suppressed cough, indicates pneumonia. A louder shrill cry upon coughing or moving the child, is an indication of pleurisy. In diseases of the alimentary canal, moaning is highly characteristic.

Posture.—In addition to the upright position or orthopnœa, the most noticeable position is the "*en chien de fusil*," the child lying on its side, the arms drawn close over the chest and the legs flexed powerfully. This position is conspicuous in some cerebral diseases, and in the late stages of tubercular meningitis.

The Evacuations.—In health, an infant's motions should vary in color from light yellow to greenish yellow. Their reaction is always acid. The odor should be similar to that of sour milk; but it should never be offensive. Its consistency varies considerably within the limits of health.

The Tongue.—A red, hot, dry tongue indicates inflammation of the mouth and stomach. A furred tongue, over which white curd is spread shows indigestion and intestinal irritation. Aphthæ or thrush may occur from neglect or starvation; white fur usually points to fever. A flabby, pale tongue, with marked edges, is an indication of great weakness. Yellow fur shows long-standing derangement of the stomach and liver. A brown tongue points to a low typhus state. In addition to the above, must not be forgotten the so-called "strawberry" tongue of scarlatina.

Temperature.—Twenty-four hours after birth the average temperature is 100.4° F., and forty-eight hours after it is about 98.6° F. During the first few days of life it varies very little from the foregoing. At a later period the average must be considered about 99° F.; 98° to 99.5° F. is perfectly normal. Some abnormal condition must be suspected when it is below 97° F.; or above 100° F.

The temperature is a more reliable guide than the pulse in young children. The thermometer alone will indicate the suspicion of scarlet fever, or enteric fever, or some incipient pneumonia or even worms. Rigors do not occur in young children, and in these subjects, delirium and convulsions to a great extent correspond to the headache and rigors of the adult. In typhoid fever, a gradual increase of temperature for the first four days, with morning remissions, is diagnostic. In tubercle, the evening temperature is as high or may be higher than the

morning. A steady fall of temperature, toward the evening especially, must be considered a very favorable indication in the continued fevers, and in inflammations generally, if the general condition of the patient corresponds. A fall of temperature, with a rapid pulse, and aggravation of the symptoms, indicates danger from exhaustion. A sudden rise or fall of temperature always precedes death.

The Eye.—Strabismus or squinting is a serious symptom. It may result from paralysis, reflex irritation or convulsions, but after the subsidence of the convulsions, the squint may remain for a time or even permanently. When squinting is observed in acute hydrocephalus it is nearly always a fatal symptom. A large pupil is more common than a small one. The latter occurs in sleep, in opium poisoning and in cerebral congestion. Inequality of the pupils occurring in acute diseases is always of grave import, but large pupils, if equal in size, are only to be considered serious if they are insensible to light. The pupils have been noticed to be irregular in children who were suffering from intestinal worms.

The Pulse.—An extremely slow pulse indicates brain disease. The following facts should always be borne in mind in connection with diseases of children :

In early childhood, the intensity of the symptoms, bears no relation to the existing affection.

Very intense fever with restlessness, screaming, and convulsions, may pass off in 24 hours, not leaving the least trace.

Copious perspiration is never seen in young children, moisture entirely replaces it.

Fever, in the acute diseases of young children, always exhibits considerable remissions.

Fever is almost always intermittent in the chronic diseases of infancy.

During sleep, the pulse of a child falls from 15 to 20 pulsations.

The pulse may be raised 15, 30, or even 40 pulsations, by the muscular movements which accompany convulsions, cough or crying.

DR. R. L. MOORE.

This writer tells us in the *Journal American Medical Association* that one of the watchwords in treating diseases of children is "elimination." Don't lock up the secretions. Give nature, that grand old mother, a chance. Very rarely should opium or any of its preparations

or derivatives, be used in the treatment of children. He who abides the nearest to this rule will have the best success in treating them. Look after them closely. Stand by the small and frequently repeated doses of tasteless medicines. Never forget that a sick child is always dangerously sick.

ALIMENTATION OF YOUNG CHILDREN.

The following are the conclusions on this subject that were presented by the committee appointed for the purpose to the Eleventh Congress of the German Physicians' Association (*Quarterly Compendium* 1883).

1. The natural food of children—mother's milk—is to be preferred above all others.

2. Only in case of positive contraindication, or non-appearance of the milk, should a wet-nurse be employed.

3. Only in case of impossibility of procuring a wet-nurse, should artificial food be employed.

4. The contraindication against the mother nursing is actual disease or a predisposition to disease.

5. Hereditary syphilis demands the milk of the mother; that of a wet-nurse should only be used with great caution.

6. Examination of a given specimen of milk furnishes no clue as to its value in a given case.

7. Good cow's milk alone is fit to take the place of woman's milk as food for the child.

8. The quality of good, sweet cow's milk, for a child which must be artificially fed, is one of the most important essentials in the hygiene of young children.

9. All children's foods, including Liebig's soup (food), on account of the large quantity of starch contained in them, are unfit for children during the first month.

MENTAL DISEASE IN SCHOOL CHILDREN.

In the *Boston Medical and Surgical Journal*, 1882, Dr. S. G. Stebbins says that mental diseases, such as are produced by overtaxation of the brain are by no means rare in schools. A business man may apply to you suffering from pain and a sense of fullness and uneasiness in the head, more or less dizziness, with occasional attacks of vertigo, general uneasiness and inability to sleep or to fix his attention upon one subject for any length of time, and you then declare him to

be a victim of cerebral hyperæmia, which, long continued, leads on to congestion, effusion and eventually death, or, what is worse, a life of insanity. The same conditions and results often obtain among scholars who are obliged to tax their brains beyond their normal powers of endurance, excepting that insanity, perhaps, rarely results from over-study in early life. He relates the cases of three school children, who died of disease of the brain from over-study and worry, neither of whom were over twelve years of age. He believes that the practice of frequent and written examinations is a trying ordeal for young pupils, and this system of forcing the youthful mind, tells upon the nervous system, and seriously, in many cases. For this reason, he observes, that the practice of stimulating young persons to excessive work, by offering prizes is to be greatly deprecated.

MALINGERING IN CHILDREN.

It is of the highest importance for physicians to understand that simulation and dissimulation are characteristics of certain temperaments at very early ages. Deliberate and persistent malingering is quite possible within the first decade of life. A striking instance in point is given in the *Nord. Med. Archiv.*, 1881.

A girl seven years old, daughter of a laboring man, complained of pain in the knees and tendons of the legs, and lay in bed more than two months with her thighs drawn close up to the abdomen. After this, the child, who lived at a distance, was seen for the first time by Dr. Malmgren, and examined, with the result that no disease could be detected. The legs were now forcibly extended, and a bandage was applied. The next day, the child, being tired of this, declared that she could lie without being bent up. The parents took off the bandage; she lay straight, but said that she could neither walk nor stand on her legs. In this state her parents allowed her to lie six or seven weeks, in the belief that she was paralyzed. She now, however, conceived the idea of counterfeiting dumbness; she could no longer be induced to speak. Dr. Malmgren endeavored, by means of pinching and pricking and the induction-apparatus, to make her utter a sound; but not until she was told that she would be removed to his house, did she recover her speech and confess the deception.

DR. JULES SIMON, OF PARIS.

This author in the *Gazette Des Hopitaux*, 1881, gives some val-

uable hints with reference to the *administration of cinchona to children*. It is seldom, he observes, that powdered bark is administered to children; but still it is sometimes given, in *café noir*, after the age of four or five, in quantities of 30 to 45 grains daily. For his own part, he prefers 15 to 30 grains daily of the soft extract for children when more than two years old. Before that age it causes indigestion, as does also the vinum cinchonæ. Even the syrup can scarcely be borne while the child is still suckling. After the second year, the vinum is a very good medicine—that is, on the condition that it is prescribed properly. We may often see pale, anæmic little girls, for whom bark wine, iron, or phosphate of lime, etc., has been prescribed, and has done more harm than good. Certainly for the first few days a dessertspoonful of cinchona wine given before a meal (as it is generall ordered) will produce a stimulus and a better appetite and tone; but the improvement is only temporary, and we soon find that the appetite is lost again, pains of the head supervening, and the child becoming nervous, etc. Why is the improvement of so short duration, and more apparent than real? Owing to a slight precaution being forgotten—the dilution of the cinchona wine with a little water. So diluted, and administered immediately before the meal, it will cause no inconvenience. Still, if, in spite of the addition of a small quantity of water, dyspepsia and headache should still supervene, or if constipation should occur, the cinchona should be suspended for a time. This addition of water to the wine is of very great importance, as is the suspension of the medicine when any great susceptibility exists; and the observation holds good also with regard to quinine wine. Syrup of cinchona is a tonic which may be given to a child after its fifteenth month, and the alcoholic tincture may be begun with after the second year—associating it advantageously with bitter preparations. The action of cinchona upon the alimentary canal is complex, giving tone, appetite, and slight constipation when properly administered, and inducing dyspepsia when given badly. It renders the pulse stronger, fuller, and more regular, and aids the development of the blood globules. It acts favorably on the nervous system when properly prescribed, but only does mischief when the precautions mentioned are not observed—producing stomachal vertigo and an irritability of disposition. Cinchona also has the property of diminishing the urinary secretion, and is contra-indicated in cases in which this is deficient.

Of the salts of quinia, the sulphate is the only one Dr. Simon employs, giving it in powder in *café noir*, or, when the child is old enough, in a wafer. Owing to its bitterness, it may be given in silvered pills of $\frac{1}{6}$ of a grain each, which can be concealed in preserve. When the child refuses it thus, it may be given in solution, facilitating its tolerance and preventing griping by a little opium, which does not interfere with the effect of the quinine. It is best given immediately before meals. Quinine may also be given advantageously in an enema in rather larger doses and combined with a drop of laudanum. Used externally, in the form of an ointment made up with equal parts of lard, the quinia is only found in the urine by the third day in children above two years of age, and somewhat earlier in those who are younger.

SCHOOL HYGIENE.

Dr. Charles J. Lundy, of Detroit, read a paper on this subject before the American Public Health Association (1884) in which he dwelt on the evils that accrue to young children from defective school hygiene and summed up his paper as follows:

1. Avoid the cramming process in education, and the nervous excitement due to the spirit of rivalry.

2. Reduce the number of subjects in the curriculum, and shorten the periods of study.

3. Ventilate the school-rooms in accordance with the most approved methods.

4. Regulate the temperature of the school-room—an atmosphere which is too warm debilitates the system.

5. Provide properly constructed and arranged seats and desks.

6. Instruct pupils to sit erect, and to hold the book or paper at least twelve inches from the eye.

7. Provide highly myopic pupils with proper spectacles, which will enable them to read at the natural distance of twelve inches.

8. Furnish pupils with well-printed books.

9. Furnish abundance of light, without producing glare. Let it come from the left side if the room is narrow, from both sides if the room is wide.

10. Provide for the physical education of school children, and teach them the importance of out-door exercise.

DR. THOMAS H. FENTON, OF PHILADELPHIA.

This physician read a very interesting paper on this subject before the Pennsylvania State Medical Society (1884) in which he said that two hundred and twelve thousand children attended the public schools of Philadelphia in 1880. The value of the school plant was $6,179,-750. The location of many buildings was faulty as to light and air. Ventilation especially is defective, no provision being made for the exit of foul air beyond the opening of the windows. Special care has been taken to ascertain the truth of this point by accurate and careful tests. The next defect noted was that of drainage, and the poor arrangement, especially of water closets, was considered.

Next came the important point of desks and seats, and the bad effect of careless arrangement of these upon the spine, the chest, and the eyes, was dwelt on at length. The prevalence of myopia was stated, and the difficulty of managing it without proper arrangements for holding books, etc., before the eyes of the children at proper distances was defined. The plan of allowing the light to fall directly upon the faces of the pupils was condemned, and the lack of proper illumination of black-boards was referred to. The color of walls, ceilings, and the paper of books, was stated to be very important.

DR. JOHN M. KEATING, OF PHILADELPHIA.

This author, in the *Archives of Pediatrics*, 1884, calls attention to the advantages to be derived from the use of *natural mineral waters* in the diseases of children. He has used largely and with success the Buffalo Lithia water, Spring No. 2, and Farmville Lithia Water, with infants of the tenderest age; he has found them especially valuable in the eruptive fevers, where there is much thirst and scanty, high-colored urine. A stone jar of it should be kept on hand, and the water used *ad libitum*, when the child is thirsty, or it may be used to dilute the food. In those cases where there is constipation, the alkaline saline waters, as Saratoga Seltzer, may be used instead. As alteratives in scrofula, the saline waters are most useful. The best way to administer them to children is by the bath. In children's practice the most valuable of this class is sea water. The baths should be administered daily, allowing the child to remain in the water ten or fifteen minutes, and it is better for the water to be about blood heat. When the sea shore is inaccessible or in winter, the prepared salt can be obtained and will

answer almost as well. Of this, about one ounce to the quart of water will represent the strength of sea water. Sulphur waters, when fresh, are most useful as baths, especially in syphilitic cases; after exposure to the air they can be used internally in rickets with inherited syphilis. As a rule sulphur waters have a tendency to constipate, but the saline sulphur waters are, of course, cathartic. In obstinate constipation an infant may be given a tablespoonful or two of Bedford water several times daily. As an alterative, for constant use, the water of Sharon Springs is probably the best. For the rheumatic diathesis, the water of Richfield Springs, New York, is very good, and probably many of those distressing cases of organic disease of the heart, the result of rheumatism in early life, could be avoided by proper use of this excellent water before it is too late.

In syphilis, or rickets, the iodine spring of the Bath Sulphur Springs, of West Virginia would be useful. There is no reason why children should not become soon accustomed to the taste of these sulphur waters, and until then the water can be exposed to the air. In infants the baths would be advantageous. The water of the Hot Sulphur Springs, Virginia, is said to be especially useful in allaying irritation of the mucous membrance, especially of the lungs, or in chronic bronchitis. These calcic-sulphur waters are probably more valuable in diseases of adults, owing to their special action upon the bladder.

The chalybeate sulphur waters, as Minnequa Springs, Pennsylvania, are recommended in cases of anæmia following rheumatism or in mild syphilitic affections of the skin. Of the saline-sulphur waters, useful in eczema, the rheumatic diathesis, and where there is a syphilitic taint, the author mentions the Blue Lick, of Kentucky; the Lafayette, the Indian Spring, the West Baden, the French Lick, of Indiana; the Blount Springs, of Alabama; and the Green Cove Springs, of Florida. The chalybeate springs are represented by the Rawley Springs, of Virginia, or of Schooley's Mountain, New Jersey. There are those that are saline, most valuable in cases where saline waters are demanded, as in scrofula; there are those that are alkaline, useful in cases of weak digestion, and dropsy from kidney disease, with anæmia. Of the former, the Ocean Spring, of Mississippi, is an example; of the latter, the Bailey Springs, of Alabama. The alum waters, which also contain iron, are valuable in the scrofulous and tubercular diathesis. The Oak Orchard Acid Springs of New York contain free sulphuric acid. They are use-

ful in cases of atonic conditions of the bowels, without congestion of the mucous membrane, in relaxation of the mucous membrane in whooping-cough or as a stimulant to that of the stomach, following summer complaints, etc. They can be taken internally in small quantities. They are most useful as baths, especially in bone scrofula, in discharges from the ears or nose, and in chronic eczema. The Rockbridge Alum Springs of Virginia are a type of this class. The Bath Alum Springs of Virginia are probably the best, as they contain a larger proportion of iron. The Alum Springs of Cresson are said to be valuable.

The calcic waters are very useful in the rickety diathesis. They are tasteless, and can be used freely as ordinary drinking-water. He has frequently required pregnant women, who have previously borne children deficient in bone development, to drink these waters. Of this class, Gettysburg water is a type—it is an alkaline calcic water. The Allegheny Springs, of West Virginia, would also be valuable, especially when a slight purgative action is required, as they have an excess of sulphate of lime. The Sweet Springs, of West Virginia, contain a large amount of the carbonate of lime. Bethesda water also belongs to this class.

To obtain the alterative action, which is the one we most frequently require, will necessitate the constant and prolonged use of the water selected, either internally or by bath, as the case demands. For bathing purposes, it may require a sojourn at the spring selected; and for cutaneous affections, or scrofulous discharges and rheumatic joint troubles, this may be imperative.

DR. HUEBNER, OF FRANCE.

In the *Rev. Mens. des Mal. de l'E.*, 1884, this author observes that cooling of the thoracic region produces a very noticeable effect upon the entire organism. His method consists in the use of water at 16° C., in which a large cloth is dipped, and then is carefully wrung out. It is then to be spread upon the surface of the body, covered with flannel, and changed every half hour until the temperature is sufficiently low. A temperature ranging near 40° C. is an indication for this treatment. In some cases it will be well to envelop the entire body with the wet cloth, but in very young children it would not be advisable. If it is desired to produce heat and sweating by this means, mustard should be added to the water, and the pack should be retained an hour and a half.

DR. POLITZER, OF VIENNA.

This distinguished authority, who has had forty years' experience with the public Institute for Sick Children, at Vienna, calls attention in *Jahrb. f. Kinderh*, 1884, to the value of *certain isolated symptoms in making the diagnosis of many of the diseases of children.*

1. One which is likely to attract attention at once, is a strongly pronounced nasal or palatal resonance in a child's cry, and this is, in many cases, the first symptom which should lead to a timely diagnosis of retro-pharyngeal abscess. The symptom is present, however, in some other affections, for example, in the ozœna of congenital syphilis, and in hypertrophy of the tonsils.

2. A greatly prolonged and loud sounding expiratory act, with normal inspiration and complete absence of asphyxia. Upon this symptom alone the author is willing to base a diagnosis of chorea major.

3. A sighing inspiration which is continuous, and seems to originate from the upper portion of the thorax. It has not been sufficiently considered by the profession, bearing in mind its importance with reference to diagnosis, and prognosis, and also to treatment. It indicates the beginning of heart weakness and paralysis, and sometimes a developing acute fatty degeneration of the heart.

4. A strongly pronounced diaphragmatic expiratory act, shrill and penetrating in character. This is spoken of as strongly contrasted to the preceding symptom, but equally valuable in diagnosticating the bronchial asthma of childhood.

5. The occurrence of pauses between the end of expiration, and recurring inspiration. This might be taken as a symptom of croup, but in most cases the probabilities are more favorable to the presence of laryngeal catarrh of a pronounced type. Associated with this symptom as an important condition, is the spasmodic catarrhal stenosis, with its accompanying sub-mucous œdema.

6. Continuous stridulous respiration from the time of birth. This is not unfrequently seen, but is often without important significance, and is supposed by the author to be due to some fault of innervation, especially with respect to the inhibitory fibres of the vagus.

7. A series of individual symptoms is next referred to which have reference mainly to the diagnosis of diseases of the brain. The first of these is a very pronounced drowsiness, which is unattended by fever or any other noticeable disturbance, and which lasts some time. When oc-

curing in children who are pale, unusually quiet and apathetic, it is very often an initial symptom of basilar meningitis. A second symptom of this series is a resistant and non-compressible anterior fontanelle which is considerably elevated above its ordinary level. It is an important and too little appreciated symptom, for it is present in cerebro-spinal, and verticalar meningitis, in acute, simple and complicating hydrocephalus, with tumors of the brain, and in intermeningeal apoplexy of infants. It is a noteworthy symptom too in fevers, and in various inflammatory conditions, but its especial value consists in its indicating that there is independent disease of the brain aside from any other concurrent processes. The deeply-depressed anterior fontanelle with which is almost always associated a sunken condition of the eyeballs, is indicative of inanition, and diminution of the volume of the blood. The third symptom of this series consists in a remarkably slow movement of the eyeballs, a staring, vacant expression, and slow, infrequent moving of the lids. It is considered by the author as an important indication of the beginning of basilar meningitis.

8. Another series of symptoms may also be noted with advantage in respect to the crying of children. The first of these is a violent, penetrating cry lasting two or three minutes, accompanied with a most anxious expression of countenance, and occurring an hour or an hour and a half after the child has gone to sleep. It is an indication of what is commonly known as "night terrors," and is very apt to occur among ænemic and irritable children. Again there is a cry which lasts five or ten minutes, which comes periodically both by day and by night, and may indicate colic or dyspepsia, but it is more likely to be caused by spasmodic action of the bladder, especially if it be observed that strangling accompanies it. Another cry seems to be associated with fear whenever the act of defecation takes place. In such cases obstinate constipation is very likely to be present and fissure of the anus will often be found to be a sufficient cause. Another severe, painful, continuous cry, with restlessness of the head upon the pillow, and frequent grasping of the head serves to indicate an otalgia, or an *otitis externa* and *media*. Another variety lasts for days and weeks, is exaggerated by touching and movement of the limbs, and is associated with paroxysms of sweating and fever. The author looks upon this as indication of acute general rachitis. Still another cry is associated with constant sleeplessness. This may be one of the phenomena of congenital syphi-

lis; but it is more likely to proceed from errors in diet, and in still other cases it is due to the viciousness of nurses. Finally there is a form of cry which is kept up day and night, which is associated with a history of exhausting discharges, and consequent thickening of the blood.

9. A final series of symptoms includes some which are not noticed by the parents of the child, or not as early as would be desirable for the child's interests. First is mentioned the peculiar physiognomy of congenital syphilis. Second is a decided falling together of the nostrils, with total absence of motion in them during inspiration, and significant narrowing of the nasal cavities. This is an indication of hypertrophy of the tonsils of a decided type. Next, a disinclination or inability to move, on the part of certain children, is referred to, which is associated with pronounced weakness, and all of which is out of proportion to the apparent gravity of the child's disease. The symptoms indicate, however, an approaching or existing spinal paralysis. Weakened power of hearing sometimes indicates the presence of circumscribed meningitis. Depression of the psychical activity after certain brain affections, in small children, may be an indication of the beginning of acquired idiocy. An indication of rachitis is sometimes seen in the delayed ossification of the cranial bones. An anxious awkward posturing in walking, sitting, rising and bending, and, in those who cannot walk, a painful contracting of the facial muscles, is said to be a valuable sign of the beginning of spondylitis. A constant vomiting, lasting for several weeks, occurring in children with closed fontanelles, and large cranial circumference, indicates a chronic hydrocephalus which has taken an acute form. Finally, an attack of convulsions may occur, which is the primary indication that the child has epilepsy. In such a case it is important to know as many symptoms as possible before rendering a positive diagnosis; hence all the points in relation to the convulsions should be taken into consideration before a diagnosis of epilepsy is given.

MILK DIET IN CHILDHOOD.

DR. CAMMAN, OF NEW YORK.

This author presents some interesting statistics in the *N. Y. Medical Journal* in support of his protest against the introduction of meat into the dietary of children. Among the evil results of the use of meat by children are mentioned feverishness, fretfulness, stomach and

intestinal disorders, and the formation of the neurotic diathesis. In the Orphans' Home and Asylum of New York, for the past twenty-five years meat has been excluded from the dietary, and milk has been one of the chief articles of food for children from three to eight years of age. Twenty deaths occurred in twenty-four years, the average number of inmates for almost the entire period being about 145. In 1865, when meat was, for a short time, added to the dietary, a death occurred from dysentery, and another from cholera, the only deaths occurring from disorders of the digestive apparatus in a history of twenty-five years. During this year, the cases of digestive derangements were three hundred per cent. more than in the previous year.

ANÆSTHETICS IN CHILDREN.

M. BOUCHUT recommends (*Gazette des Hopitaux*, 1880) the use of *chloral as an anæsthetic* in minor operations upon children. The dose, fifteen, thirty, or forty-five grains, as the case may be, is given in four ounces of water, well sweetened, the whole being taken at once. Half an hour afterwards the child sleeps, and in one hour, is totally insensible. This sleep lasts from three to six hours, and the child awakens as fresh as if from natural sleep. Once insensibility arrives, a great number of operations can be performed, such as extraction of teeth, destruction of erectile tumors by caustics, application of Vienna paste, opening of abscesses, thoracentesis, redressing of malformed limbs, anchylosis, etc., without any other inconvenience than that of leaving the children to sleep off the effects of the chloral.

M. BOUCHUT asserts that he has administered this anæsthetic over ten thousand times at the hospital (*Hôpital des Enfantes Malades*), and never had an accident; where the stomach rejects the chloral (which is very rare in children), a suppository with the required dose is given, and when it has melted sleep comes on. M. BOUCHUT, however, is not much in favor of this mode, as chloral, he has found, irritates the rectum after the third or fourth time. Although chloral is so well tolerated in the child, it is far from it in the adult. M. BOUCHUT never could succeed in giving a dose large enough to produce insensibility, as when sixty grains were administered it was rejected at once "If the employment of this anæsthetic," says M. BOUCHUT, "were attended with any danger, it should be abandoned, but as I have already stated, there is none whatever."

DRS. PENZOLDT AND SARTORIUS, OF GERMANY.

These gentlemen have made a number of trials of *antipyrin* in the treatment of children's diseases, and report the conclusions in the *Berliner Klinische Wochenschrift*, 1884:

1. Antipyrin is to be regarded as a very effectual remedy in the pyretic diseases of childhood.

2. In suitable dose it lowers the temperature several degrees, and the effects continue for several hours.

3. The pulse-rate is never reduced in a degree corresponding to the fall of temperature.

4. The effect upon the general condition is usually good.

5. The only disturbance that it ever causes is occasional vomiting. When this occurs the remedy may be given by the rectum.

6. Anptipyrin should be given in three doses at intervals of an hour. Each dose should consist of as many decigrammes (one and a half grain) as the child has lived years. If this dose is insufficient, as may often be the case in small children, it should be increased a decigramme at a time until the desired effect is obtained. When administered by the rectum, a single dose of from three to six times as many decigrammes as the child counts years may be given.

7. When the use of the drug has been long continued, the organism seems at times to become tolerant, and then the dose must be increased cautiously.

PROFESSOR LEDAMENDA.

This author publishes the following valuable aphorisms on the management of diseases of children in *El Dictamen*, 1884:

1. Children are like the mob: they always complain with reason, although they cannot give the reason why they complain.

2. Always look at the lips of a pale and sickly child; if they are of a deep red color, beware of prescribing tonics internally. At the outset you will congratulate yourself; but in the long run you will repent of having employed them.

3. As a general rule, a sad child has an encephalic lesion; a furious child an abdominal one; a soporific child has both, though indistinctly defined.

4. An attendance on children produces in the mind of an observant physician the conviction that the half, at least, of adult transgressors are so through morbid abdominal influences.

5. A sunny living-room, a clear skin, and an ounce of castor oil in the cupboard—these are the three great points of infantile hygiene.

6. To dispute the clinical value of tracheotomy in croup is a waste of time to no good purpose. Croup or no croup, if there be a positive obstruction to respiration in the larynx, it is but according to reason to open a way for sublaryngeal respiration. In the days of more knowledge and less nonsense, tracheotomy will be ranked among the minor surgical operations.

7. In dentition it is not the direct or eruptive pressure, but the lateral pressure of all the teeth together, that is most dangerous. It is from this that so many cerebral symptoms appear which can in no way be relieved by incisions in the gums. The only recourse against the dangers of this transverse pressure is to give the child more nourishment, in the hope that, as the general condition is bettered, the local condition will also be improved.

8. If the incisors of the first dentition are serrated, it is bad, but, if those of the second formation are the same, it is worse. It foretells a number of lesions, arising from deficiency of mineral salts in the tissues. There is only one exception, and it is an important one. When the serrated incisors are seen in strong children in whom the fontanelles have closed early, it is a sign of a robust constitution. Instead of a number of small and sharp indentations, there are a few large blunt ones.

9. To regard the eruption of the teeth as the sole factor in the general process known as the first dentition, is to perpetuate a sort of medical synecdoche. Children get their first teeth because they are at the same time getting a second stomach, and second intestines.

10. The body of a child possesses such a degree of "acoustic transparency," that, in case of necessity or convenience, auscultation may be practiced with the hand, converting it into a telephone, which will reveal as much to the physician as even his ear could do.

11. In practice it is well to distinguish with precision a case in which disease is due to lumbricoides, from one in which lumbricoides are due to the disease; for in the former case anthelmintics are of service, but in the latter they do harm.

12. Since, until the child is able to talk clearly, his relations with the physician are purely objective, it is very necessary that we should study as carefully as do the veterinarians, the exact correspondence between the lesions and the expressions of the patient.

13. If you wish to cure rapidly and well, joint-diseases in infants, you must treat them as you would a conflagration— douches, douches, and more douches, until you have succeeded in extinguishing them.

14. The entire system of the moral relation between children and adults should be changed. To speak to them incorrectly, merely because they cannot pronounce well; to excite their fears, and to arouse their weird imaginations, simply because they are easily frightened and impressionable; to stimulate their vanity because they are naturally inclined to be vain—these and other similar actions are not only wrongs, but absurd.

COMBATING FEVER IN YOUNG CHILDREN.

It is often difficult, and in fact not without danger, to administer an efficient febrifuge to young children. In such cases the administration of sulphate of quinine by inoculation offers many advantages. The absorption of the salt is rendered possible by the extremely thin epidermis in very young children. The following unguent will be found efficient:

1. ℞.	Quiniæ bisulph.	gr. xxx	
	Camphoræ,	gr. xv	
	Unguent simpl.,	ʒvj.	M

A small quantity may be rubbed in over the groin or in the axilla.

DR. R. L. MOORE, OF MINNESOTA,

Considers that a large portion of the ailments of children are simply some form of *irritation* of the digestive apparatus or of the organs of respiration. He advocates the use of small and frequently repeated doses of tasteless medicines. He considers that opium and its derivatives should rarely, if ever, be given to children, but he regards aconite, belladonna, ipecacuanha and mercury with chalk, in small and frequently repeated doses, as the most valuable drugs in the therapeutics of childhood.

DR. W. J. CRAIGEN, OF MARYLAND.

This author strongly advocates, in the *Medical and Surgical Reporter*, 1880, a new, and he thinks an improved, method of treating the newly-born child. 1. It is not washed. 2. It is not dressed. 3. It is not fed. 4. It is not bandaged. 5. Its umbilical cord is not compressed. The washing is apt to cause chilling, from the evaporation of

water from the surface. The dressing is usually of such a nature as to bind, constrict and overheat the child. Our author asks whether it is not probable that this exposure to cold and chilling of the body is the initial or starting point of that numerous train of evils that cause such fearful infant mortality? Does not the absurd cramming of improper articles into the tender infant's delicate stomach produce irritation, indigestion, flatulence, pain, cramp, colic, spasms, etc.? According to this writer, as soon as the child is expelled from the mother, it is placed on its right side, in a comfortable position for breathing, and kept well under the bed-clothes until the cord ceases to pulsate. The cord is then nicked off slowly, with a pair of dull scissors, and caught close to the abdomen, between the thumb and index finger of the left hand, while the blood and gelatine are squeezed out with the thumb and index finger of the right hand, and a ligature is thrown around it. Beware of a thick, dense, hard, unyielding cord, from which nothing can be pressed, for as soon as desiccation relieves the contriction of the ligature, the child may bleed to death. After ligating the cord, a coating of fresh, soft lard is quickly applied to the whole surface of the child, except the face, which latter is to be wiped off with a damp cloth. A napkin is applied about the hips, and it is quickly slipped into a soft, loose flannel gown, enveloped in a proper blanket, and laid in some comfortable place. It is to have nothing except what it gets from its mother's breasts. After twenty-four to thirty-six hours it can receive its first ablution. Should there be colic, he gives,

2. ℞. Magnesii ust., gr. xx
Pulv. rhei, gr. x
Ol. anisi, gtt. x. M.

S.—Dose from three to five grains.

ARTIFICIAL FEEDING OF INFANTS.

DR. ARTHUR V. MEIGS, OF PHILADELPHIA,

In the *Medical News*, 1883, describes a new food, with which he states that he has obtained very good success. It consists of two parts of cream, one of milk, two of lime water, and three parts of a solution of milk sugar of the strength of 17¾ drachms to the pint of water. The millk to be used should be good ordinary cow's milk, and the cream, such as is usually sold in cities, and not too rich, containing about 16 or 17 per cent. of fat. The quantity of this food taken by a new-born infant, should be two or three fluid ounces every two hours.

The best way to prepare and use this food, is to order five or six packages of milk sugar, containing 17¾ drachms each; the contents of one of these to be dissolved in a pint of water; and each time the child is to be fed, let these be mixed together and then warmed, three tablespoonfuls of the sugar solution, two of lime water, two of cream and one of milk. This makes about a gill, and as much of it as the child does not take should be thrown out, and a fresh mixture made for the next feeding. The solution of sugar should be kept in a cool place, and at once thrown away if it sours, as occurs if kept more than a day or two in warm water. The dry sugar keeps indefinitely, and is easily dissolved in warm water. A pint bottle should be kept for the purpose of containing the solution, to serve also as a measure of the quantity of water to be used with each package dissolved, and also to save further measuring.

PROFESSOR ALBERT R. LEEDS, OF NEW JERSEY.

As corroborative of the recommendation of Dr. Meigs, it is valuable to have the following conclusions of Professor Leeds, which he presented to the College of Physicians of Philadelphia, 1883:

1. Cow's is in no sense a substitute for a woman's milk.

2. Attenuation with water alone is inadequate, and chemical metamorphosis, or, mechanically, the addition of some inert attenuant, is required, in order to permit of the ready digestibility of cow's milk by infants.

3. The utility of manufactured infant's food is to act as such attenuants, and as such they take the place of the simple barley and oatmeal water, the sugar, cream, baked cracker, arrowroot, etc., etc., used in former times.

4. The results of both chemical and physiological analysis are opposed to any but a sparing use of preparations containing large percentages of starch.

5. It is eminently probable that besides acting as attenuants, the matters extracted in the preparation of barley and oatmeal water, and still more the soluble albuminoid extractives obtained at ordinary temperatures (whereby coagulation is prevented), by Liebig's process, have a great independent value of their own. For this reason, instead of employing starch, gum, gelatine, sugar, etc., the use of a natural cereal extractive, containing saccharine and gummy matters and

soluble albuminoids as well, such as our great and inspired teacher LIEBIG himself advocated, is in accordance with the developements of science since his time.

6. The use of a food made up of equal parts of milk, cream, lime-water, and weak arrowroot water, as practiced for years by the late DR. J. FORSYTH MEIGS, and recently advocated by his son, DR. ARTHUR V. MEIGS, is sustained by theory, analysis, and practice. It provides for the increase of fat to an amount comparable to that contained in human milk. It adds alkali to permanent reaction, and to convert caseine into soluble albuminates. It adds a little bland attenuant. And, if, in addition, the amount of milk-sugar were raised, and instead of arrowroot water, barley or oatmeal water were substituted, as the case demanded, it would approach, it appears to me, still more nearly to the conditions required.

7. The perfect solution of the present problem is to be found in the modification of cow's milk by chemical processes, so as to make it physiologically equivalent to human milk. The nature of these processes, and the results to be obtained, are at present so nearly wrought out, that there is good ground for believing that such a solution of this problem is not far distant in the future.

ROBERT FARQUHARSON, M. D., F. R. C. P., LONDON.

Understanding by "children," those more than one year old, this writer (*British Medical Journal*, Nov., 1877,) points out that it is a common error of the text-books to teach that they require much smaller doses of most of our active drugs than adults. This is in most instances an error, and a material one, as it leads to inefficient medication. Children do not present in anything like the same degree, the special peculiarities of idiosyncrasy; the effects of medicines are pretty constant in their case, and we may generally anticipate the satisfaction of finding that our remedy has acted as we wished, and without any of that excess or eccentricity of action which too often brings undeserved discredit on the medical man.

Dr. F. is willing to confirm the usual opinion of the dangers of *opium* in very early childhood, but those within the period of life selected for consideration can bear moderate quantities, and *chloral* seems always well borne. For instance, he had under treatment a little rickety girl suffering from recurring attacks of laryngismus

stridulus, to whom $3\frac{1}{2}$ grains were given with benefit thrice daily. The same patient took 10, and finally 15 grains of *bromide of potassium*, before any beneficial effect was attained; he has always observed that this drug is well taken by children. Twenty and thirty grains have been no uncommon dose to reach in patients from eight to ten, suffering from epileptic seizures, and in them he has never observed any symptoms of bromism. The opposite seems to hold good of iodide of potassium, for he has several times seen papular and petechial eruptions produced by 1-grain doses of this drug.

Arsenic is usually well taken. He should have no hesitation in ordering 5 minims of Fower's solution for a child six years old. Ten minims have been occasionally ordered. When physiological symptoms present themselves, as they sometimes do, it is important to know that they do not assume the usually described type, and that vomiting is the most usual symptom. He has seen this follow a single 1-minim dose; more rarely we meet with a red and irritable tongue, dry lips, injected eyes, and abdominal pain; girls being, contrary to the statement of RINGER, more susceptible to the overaction of the drug than boys.

Prussic acid may be pretty freely prescribed, and he has given nearly 2 minims to a child of two years, with some slight benefit, for pertussis; and at the age of seven, he has given nearly 3 minims for the successful arrest of sickness.

We know that *emetics* must be given in very full doses. The intestinal canal of young children seems strangely insusceptible to the action of purgatives, and large quantities must be given before satisfactory action is attained.

Belladonna is a drug which can be borne by children in doses fully as large as given to an adult.

J. MILNER FORTHERGILL, M. D., LONDON.

This experienced therapeutist points out that owing to the impressibility of the nervous system in children, *depressants* should only be given for but short periods in acute disease. Again, many sick children have ravenous appetites, and the more they eat, the more quickly they perish from inanition, in consequence of overloading the already weakened digestive powers. Diarrhœa is, especially in children, a natural effort to remove indigestible masses, and if checked with astrin-

gents, frequently leads to enteritis. A form of diarrhœa with green stools is brought about by over-suckling or insufficient nutrition. It does not require medicine, but richer and more abundant food. In weakly and scrofulous children, the secretions should be examined. They will often be found excessively acid; in which cases alkalies, especially potash, with good nourishment, will be found to remove all the symptoms.

EDWARD JOHN WARING, M. D., LONDON.

In childhood (as in old age) the same doses of medicines are not generally as well borne as in youth and manhood, and much nicety is sometimes necessary in regulating the dose. Several exceptions, however, present themselves; thus, in childhood (and in old age) much larger quantities of *mercury* are necessary to induce salivation than in manhood; indeed, Dr. CLARKE states that, in a practice of twenty years, he never saw a child truly salivated; an observation corroborated by the experience of others. Prof. GRAVES ascribes the difficulty of inducing salivation in children and in old persons to the undeveloped state of the salivary glands in the former, and to their atrophied state in the latter. On the other hand, in infancy and childhood, *opium* in every form is a remedy that requires the utmost caution in its administration. Two and a half drops of laudanum have destroyed an infant three days old; three drops, a strong child of fourteen months; and four drops, a child of a few weeks old (CHRISTISON.) In infancy and childhood, *blisters* allowed to remain long in contact with the skin are apt to induce ulceration and gangrene; and *leeches*, on account of the thinness of the skin, and the vascularity of the subjacent tissues, draw more blood, and consequently make a more decided impression on the system in an infant, than a proportionate number would produce in an adult.

EDWARD ELLIS, M. D., LONDON.

Children bear emetics well, but blood-letting badly. Blisters should be resorted to very seldom, as their consequences are often most injurious. More than one potent remedy should not be administered at a time. Remedies should be of moderate bulk and as palatable as possible. Narcotics and irritants of all descriptions should be given with caution. Of particular remedies in children Dr. E. comments on

Ferri Phosphas. This preparation of iron, especially in the com-

pound syrup, with the phosphates of lime, soda and potash (PARRISH'S Chemical Food), is often tolerated in infancy when other ferruginous preparations are not. Its pleasant taste and pretty color are to its advantage. Dr. ELLIS has given it in thousands of cases, and states that its value in general debility, rickets, scrofula, etc., cannot be over-estimated.

Morphia. The very best preparation of opium we have for children is the *bimeconate of morphia.* The most suitable form is in solution.

Hyoscyamus is of the greatest service in children's diseases, as a safe and efficient sedative, without the deleterious effects of the preparations of opium. For instance:

3. ℞. Tinct. hyoscyami, āā ♏v
Syrupi papaveros, f.℥j M.
Aquæ menthæ,
As an anodyne for a young infant.

4. ℞. Tinct. hyoscyami, ♏v–xv
Liquoris ammonii acetatis, ♏x–xxx
Vini ipecacuanhæ, ♏x–xv
Aquæ camphoræ, f.℥ij–iv. M.
In bronchitis, etc.

Aconite is one of the most valuable of remedies in the early stage of acute inflammations in children. It is anodyne and antiphlogistic. It should be administered in small and frequent doses to produce its best effect, say one-fourth or one-half a drop of the tincture of the root every hour. An experience of years has confirmed Dr. ELLIS in his opinion of the value of this method in almost all acute inflammations. It is of less service, however, in the first three years of life than after this period has passed.

Quiniæ Sulphas is probably the most potent tonic for children with which we are acquainted. Small doses answer best for them, and it is often well, particularly after very exhausting diseases, to precede the quinia with gentian, chiretta, columbo, or some of the other minor tonics. (One of the most eligible forms of the cinchona alkaloids for children is that given in NAPHEY'S MEDICAL THERAPEUTICS, 8th Ed., F. 891.)

M. JULES SIMON, M. D., PARIS.

In a clinical lecture on the therapeutics of early life (*Moniteur Therapeutique*, August 7, 1877,) this writer lays particular stress on the following points: *Tincture of iodine* should not be applied pure in

tubercular children; it should be diluted either with glycerine or with some unguent. Neither *iodide of potassium* nor *iodide of iron* should be given to children under two years of age, except perhaps in cases of acute hereditary syphilis, where small doses may be administered. It may be given to the nurse if the child have not been weaned. Older children bear the drug well. Those who are especially benefited by it are patients robust in appearance, but with soft, inelastic flesh, and with manifestations of incipient scrofula. Albuminuria has been observed by M. Simon in a large number of cases to follow paintings of the surface with tincture of iodine, especially when applied to eruptions. Iodide of potassium produced the same result, but in a smaller degree.

Pilocarpin has lately been much employed in children's diseases by Prof. Demme, of Berne. The general conclusions drawn from his cases are, that pilocarpin exhibits its sialogogic and diaphoretic properties in a very marked manner in childhood, and that it is very well borne at the tenderest age in the doses of gr. $\frac{1}{10}$–$\frac{1}{5}$, its sialogogic effect being more prominent in the younger, and its diaphoretic effect in the older children; that any unfavorable after-effects, even in the youngest children, are quite exceptional, and are preventable by administering minute doses of brandy prior to the injection; and that no influence on the action of the heart is perceptible. The cases best adapted for its employment are desquamative parenchymatous nephritis with dropsy, following scarlatina, diphtheria, etc. A beneficial diuresis in most of the cases ensues, the quantity of albumen which the urine contains never being increased, but rather diminished.

SPECIAL THERAPEUTICAL METHODS.

As it is often difficult and sometimes injurious to the child to force it to swallow medicines by violence, it is desirable to employ other methods as much as possible.

Remedies in the form of small powders can be dropped on the back part of the tongue.

Hypodermic injections are easily given and rapidly absorbed, but are painful.

The delicacy of the epidermis renders *inunction* a most convenient and useful mode. Half a drachm of castor oil rubbed over the abdomen will usually promptly relax the bowels of an infant.

Dr. Dewitt C. Wade has recently laid before the profession a sug-

gestive article on this subject. (*Michigan Medical News*, July 10th, 1878.) He has found *glyceroles* the most effective forms. He applies them to any part of the body, first cleansing the skin of its oily secretions by sponging with the following alkaline solution:

5. ℞. Liquoris ammoniæ, ♏x–f. ʒj.
Aquæ, f. ℥iv. M.

Having carefully washed off this alkali, he immediately applies the glycerole. As examples he gives:

6. ℞. Morphiæ sulphatis, gr. j–iij
Glycerinæ, f. ʒj. M.
For an anodyne endermic glycerole.

7. ℞. Quiniæ bromidi, gr. xx–ʒj
Glycerinæ, f. ℥j. M.
For a tonic or anti-malarial glycerole.

8. ℞. Extracti carnis, f. ℥j
Glycerinæ, f. ℥iij. M.
For a nutrient glycerole.

It is astonishing, says Dr. W., how quickly this is absorbed and how promptly its effect is noticed in strengthening the pulse. Dried albumen and extract of malt may also be given very successfully to the most feeble infants in this manner.

Medicated *baths*, *lotions*, *liniments* and *poultices* are far more efficient in children than in adults. Very feeble infants derive much benefit from nutritive baths of milk, beef tea, etc., which should be of the temperature of the body, and in which they should remain for hours, if need be. The *steel-bath* is an excellent tonic.

9. ℞. Ferri sulphatis, ℥ss
Aquæ (temp. 95°), gall. iv. M.
For a bath.

So also is the *salt-bath;* four ounces of sea-salt to four gallons of water. For the night-sweats of children, rubbing the chest and neck with half a drachm of tincture of belladonna at night will be found most serviceable. In all other inflammatory affections of deep-seated organs, warm poultices and fomentations will prove to act much more positively than in adults.

In children at the breast, certain medicines are successfully given by

administering them to the nurse, and thus introducing them to the child through its food. *Iron*, *iodine* and *iodide of potash* can all be exhibited in this way, and in weak, rachitic infants it is by far the best method. Dr. GEMMEL (*Berliner Klinische Wochenschrift*, Nov. 15, 1877), has experimented in feeding cows with such drugs, mingled in their food, and giving their milk to children. The milk showed the characteristic reactions of iodine, etc., and had positive remedial properties.

DRS. MEIGS AND PEPPER, OF PHILADELPHIA.

These distinguished authors, in the last edition of their work on "Diseases of Children," very truly say that the clinical examination of children and particularly of young infants cannot be successfully practiced upon the same method as that habitually made use of in the case of adults; the helpless silence of the infant—the wilful silence, or the loose and inconsistent answers of the older child, which lead astray the mind rather than guide it to true results—the agitation and fright produced by the examination, rendering it impossible at times to ascertain the real state of the different functions of the economy—and lastly, the difficulty of obtaining accurate and reliable accounts of the history of the case from the attendants, all combine to make the duty of the physician most perplexing, and, unless he be gifted with a large share of patient and philosophic calmness, most irksome and trying to temper. After the age of eight or ten years, the physical and intellectual development have progressed to such a point as to render the method of diagnosis nearly the same as that employed in adults.

It is important that the examination should be made in two different conditions. 1st. While the child is calm and quiet, and 2d. While it is disturbed and agitated. If possible, therefore, the physician should always see the child when asleep, and if the mother or nurse propose, on the occasion of his visit, to hurry up stairs to prepare the child, or to bring it down in the parlor or lower room, he should ask, as a favor, that he may see it asleep. If, in spite of having just been nursed, the child be awake and fretting, we should endeavor, by the attraction of toys, by gentle and soothing words and manners, by fondling or by having it carried about the room, to get it quiet. We should be very particular to elicit from the parents or attendants a clear history of the case and all that may have transpired between our visits. We must not disregard what the mother may tell us, even though we do not at once

see its substantiation, for we must ever remember that maternal instinct will sometimes discover that which has escaped the search of the most acute and rigorous medical observer. When we have reason to suspect the onset of any of the eruptive fevers, we should carefully question the mother as to the date of beginning of the illness; by well directed questions we can determine this. It will be well to elicit all the information that we can from the mother or attendant before we go into the presence of the child, in order to avoid the risk of alarming the child, by the presence, during an unnecessary length of time, of a stranger.

The most important points to be attended to during the clinical examination, are the countenance, noting its expression, color, the presence or absence of furrows and wrinkles from pain, from emaciation, or from disordered muscular action, the appearances presented by the nasal orifices, and especially by the alæ nasi, and the characters exhibited by the mouth; the sleep, the cry, the state of plumpness or emaciation; the condition of the skin as to color, temperature, moisture or dryness, the presence of swellings of any kind, such as those produced by dropsy, or by affections of the joints, and the existence of eruptions; the pulse; impulse of the heart; the respiration; the signs furnished by the state of the mouth and throat, and by the disposition towards and power of sucking, or by the manner in which drinks are taken; and lastly, the state of the abdomen.

In diseases of the brain, the expression of the upper part of the face, the forehead and the eyes, are chiefly affected, while in diseases of the thoracic organs, the middle portion of the face (especially the nostrils) are affected. Dr. M. Hall tells us that pain in the head causes a contracted brow, pain in the belly an elevation of the upper lip, while pain in the chest is chiefly denoted by sharpness of the nostrils; but our authors consider that it is impossible from the expression alone to tell where the pain is located. In chronic cases of all kinds where the nutritive functions are enfeebled, the pain assumes a pallid and waxen hue; in the various digestive derangements, it becomes muddy or sallow, and in affections of the liver more or less yellow. In pneumonia, bronchitis, and pleurisy, the movements of the alæ nasi become rapid and energetic.

The pulse of the child, in order to be judged of to any real advantage, must be examined during the stage of quiet, and, if possible, it should be felt while the child is either asleep or dozing.

The physician should never think his examination of a sick child concluded until he has inquired as to the occurrence of vomiting, and as to the state of the discharges by stool. Not only should he inquire as to these symptoms, but he ought by all means to inspect personally the appearance of the matters ejected. This is especially important in regard to the dejections, since no description of a mother or nurse, however intelligent, can impart to the physician the precise and accurate idea of the state of those discharges, which even a very rapid inspection would give him.

ANÆMIA.

DR. EDWARD HENOCH, OF BERLIN.

According to this author iron can have very little permanent benefit, because the most frequent cause of the affection is the constant presence of the anæmic children in the poisoned air of large cities, especially in overcrowded school rooms, where they are subjected to mental overwork. Hence the beneficial effects of the iron are constantly antagonized by the bad hygienic surroundings. When circumstances permit, it is best to remove the children altogether from the city, and to have them educated in country schools, as very little is accomplished, as a rule, by a vacation of several weeks at the sea-shore or in the mountains. He regards a stay at the sea-shore as a doubtful experiment. While it has a decidedly favorable influence in a certain number of cases, it is entirely useless in many others, or acts unfavorably, especially if the timid children are forced to bathe and he therefore always prefers a sunny mountainous district. In a series of cases which obstinately resisted the use of iron, he found very good results from the use of Fowler's solution of arsenic.

DR. ARMAND SEMPLE, OF LONDON,

Considers that the treatment depends greatly upon the state of the patient and upon the cause. The most important drug is *iron* in some form. The ammonio-citrate of iron is perhaps the best preparation, since it seldom disagrees; it may be combined with syrup and water.

The tincture of the chloride of iron, with glycerine, is especially indicated when there is a hæmic murmur. Among other remedies he mentions the syrup of the hypophosphite of iron, the syrup of the phosphate of iron, the compound syrup of the phosphates (Parrish's Chemical Food), the syrup of the iodide of iron and steel wine. The lozenges of reduced iron are often very useful. The constipating effect of the iron may be counteracted by combining with it a few grains of sulphate of magnesia. Belladonna, in doses of 2 to 5 minims of the tincture is sometimes advantageously combined with the iron salts, especially when the heart's action is rapid.

J. MILNER FOTHERGILL, M. D., LONDON.

The general treatment of anæmia in children, is by *iron*. But there are conditions both where a syphilitic taint exists, and where symptoms of it are not discoverable, where iron alone fails; but if combined with minute doses of *mercurials*, it acts promptly and beneficially.

DR. BOSSU, PARIS.

10. ℞. Ferri redacti, ʒss
Pulveris canellæ,
Pulveris gentianæ,
Magnesiæ, āā gr. xv. M.

Divide into twenty powders; one morning and evening, for children in cases of atony of the digestive tube.

NOTES ON REMEDIES.

**Calcii Phosphas* is strongly recommended by Dr. RINGER, in the anæmia of young, rapidly-growing persons, in the dose of 1 or 2 grains, several times a day.

**Ferri et Ammonii Citras* is useful, especially in irritable states of the stomach, when it may be given with infusion of calumba.

**Oleum Morrhuæ.* Dr. ELLIS remarks that the secret of giving cod-liver oil successfully, is not to give too much, and to give it at the right time. Two or three drops for a young infant, ½ a teaspoonful for a child of six or seven, is sufficient. The proper time is soon after meals and on going to bed.

Phosphorus. Dr. ELLIS says that perhaps the very best remedy for anæmia in children, is this drug. He combines it with nux vomica and iron:

11. ℞. Phosphori, gr. $\frac{1}{50}$
Ferri redacti, gr. j–ij
Extracti nucis vomicæ, gr. ¼. M.

For a pill. Twice daily.

Or with quinine:

12. ℞. Phosphori, gr. $\frac{1}{10}$
Quiniæ sulphatis, gr. j. M.
For one pill, thrice daily, for a child of eight or ten years.

APHTHÆ OF THE PALATE.

DR. EDWARD HENOCH, OF BERLIN,

Considers that aphthæ of the palate only require treatment when they become larger under the influence of poor nutrition. He then applies a solution of sulphate of zinc (1 to 10) or nitrate of silver (1 to 15).

DRS. MEIGS AND PEPPER, OF PHILADELPHIA.

According to these authors, the discrete variety usually requires only topical remedies, regulation of the diet, and when there are marked symptoms of gastric derangement, the exhibition of some mild emetic, or of a laxative dose. The local treatment should consist of applications of demulcent preparations, as the mucilages of slippery elm, sassafras pith, flaxseed, marsh-mallow root, quince-seed, etc., which are to be used pure when there is no pain, or with the addition of a few drops of laudanum or wine of opium, when the mouth is sore and tender; the aphthæ ought to be touched occasionally with the mixture of borax and honey or with the following:

13. ℞. Mel. rosæ, f. ℥j
Aluminis, ℥ss
Aquæ destillat., f. ℥ss. M.

The application must be made several times a day with a camel's hair pencil, a pencil made of charpie or cotton or with a soft rag covering the finger. When the ulcers which follow the vesicles, fail to cicatrize rapidly under the above applications, or when they are numerous and painful, their cure may be very much hastened and the pain quickly relieved, by touching them very lightly with a stick of nitrate of silver, or a piece of alum, sharpened to a point; or we may employ a pencil dipped into a strong solution of nitrate of silver, or into a mixture of one part of muriatic acid to two of honey. Light applications daily, or on alternate days, with a solution of iodoform in ether, 40 to 60 grains to the ounce, lessen sensitiveness and promote the healing of the ulcers. Ether itself has been highly recommended as a local application by Dr. J. Worms, who has observed the fatty nature of the deposit in aphthous

ulcers. The general treatment of *discrete aphthæ*, need consist of nothing more than the use of a simple, unirritating diet in most of the cases. If however, the digestive apparatus is deranged, the case must be treated according to the symptoms; by antacids or a gentle emetic, when the tongue is foul and the secretions acid; and by the use of a mild laxative, as castor oil, magnesia or rhubarb, when there is constipation. When diarrhœa is present, we should resort first to a small dose of castor oil or syrup of rhubarb, with the addition of half a drop to two drops of laudanum, according to the age of the child, and afterwards to astringents and opiates.

The treatment of *confluent aphthæ* must depend on their cause. The local treatment is the same as that for the discrete variety, except that mild cauterization should be resorted to at an earlier period. When they seem to depend upon a general morbid state of the constitution, as congenital debility, a scorbutic diathesis, or upon chronic affections of the digestive organs, they must be treated by properly regulated and nutritious diet, and by the exhibition of tonics and gentle stimulants, particularly iron, quinine, and small quantities of very fine old brandy.

BRONCHITIS.

DR. EDWARD HENOCH, OF BERLIN.

According to this author, simple catarrh recovers spontaneously if the child is kept in its room, but two to three weeks almost always elapse before the disease has been completely cured. The use of inf. rad. ipecacuanhæ is recommended by some writers, but our author does not think it will shorten the attack, though it may have a sedative effect on the cough. When constipation and fever are present, he uses ipecacuanha in combination with calomel.

14. ℞. Calomel, gr. iss
Pulv. rad. ipecac., gr. iss
Sacch. alb., gr. viiss. M.
S.—Give this powder every two hours.

But if the disease is attended with great dyspnœa and high fever, more energetic treatment is necessary, and in such cases he uses cups,

(dry or wet), four or eight, according to the age. He strongly recommends hydropathic applications to the chest, from the neck to the umbilicus. A napkin or diaper is dipped in water at the temperature of the room, well wrung out and then placed around the chest, without exercising any compression, so that the arms are free; this is surrounded by a roll of batting, and then covered with a layer of oil-silk. When the fever is high, these applications should be renewed at least every half hour; later they may be kept for one or two hours, and this should be continued for several days and nights. These applications will be aided, if steam is allowed to escape from a teapot near the bed, thus rendering the atmosphere moist. The applications often produce favorable perspiration, which should not, however, be allowed to become too profuse, as it may cause symptoms of collapse. During the entire course of the disease it is not well to keep the child constantly on his back, but to change him from one side to the other, or carry him on the arm, in order to prevent hypostatic congestion as much as possible. Our author coincides with the view that emetics are useful. When the patient is strong and healthy and can be carefully nursed, he uses tartar emetic.

15. ℞. Antimonii et potassii tart., gr. iss
Aq. destil, f. ʒ iij
Syr. simpl, f. ʒ v. M.

Of this he gives a teaspoonful every hour until vomiting occurs, and then every two hours. If vomiting or perhaps diarrhœa occurs after each dose, the drug must be stopped at once. Even though vomiting is not produced after the first three doses, still he increases the intervals to two hours, in order to prevent cumulative effect. This plan is unsuitable for weakly children, when diarrhœa is present or in an advanced stage of the disease. In such cases it is better to use ipecacuanha.

16. ℞. Pulv. rad. ipecac., gr. xv–xxx
Aq. destill., f. ʒ viiss
Oxymel scillæ, f. ʒ iij. M.
S.—One dessertspoonful every ten minutes until the effect is produced.

In vigorous nurslings he has often found the following useful in the beginning of the disease:

17. ℞. Vin antimonii,
Oxymel scillæ, āā f. ʒ iiss. M.
S.—A teaspoonful every ten minutes until the effect is produced.

As soon as numerous rales indicate the presence of profuse secretion in the bronchi, and the sinking powers prohibit the use of emetics, he recommends a strong infusion of ipecac root, decoction of senega root or polygala amaræ.

18. ℞.	Decoct. rad. senegæ or polygala amaræ,	f. ℥ iij	
	Liq. ammon. anisat,	f. ℥ ss	
	Syrup,	f. ℥ v.	M.

S.—Dessertspoonful every two hours.

Mustard poultices to the sternum or back, and small flying blisters to the thorax, he also uses at this time. Milk, broth and wine must be given alternately to sustain the strength. If these articles are of no avail, and the loss of strength progresses, he resorts to camphor and benzoic acid.

19. ℞.	Camphoræ tritæ,	gr. ½	
	Acid. benzoic,	gr. ¾	
	Sacch. alb.,	gr. iss.	M.

S.—Give this powder every two hours.

PROF. J. LEWIS SMITH, M. D., NEW YORK.

At the outset of acute bronchitis in children, it is often of great service to exhibit small and repeated doses of *veratrum viride*, as the following, for a child five years old, in the first stage of the disease:

20. ℞.	Tinct. veratri viridis,	♏xij	
	Syrupi scillæ compos.,	f. ℥ ij	
	Syrupi balsami tolutani,	f. ℥ xiv.	M.

One teaspoonful every two or three hours.

When the pulse lowers, the temperature falls, and moisture appears upon the skin, the medicine should be omitted. The remaining treatment is by expectorant mixtures, etc. The chronic laryngitis occurring in children in general good health, sometimes resulting from an acute attack, is an obstinate affection. The patient should be warmly clad, and every effort made to guard against taking cold. The most satisfactory treatment is the application of tincture of iodine upon the neck, directly over the larynx, and in some cases, of a solution of nitrate of silver—10 or 20 grains to the ounce—to the fauces, so that, if possible, some of it may enter the larynx. Little benefit is derived from stimulating expectorants. The following recipe has proved beneficial in a number of cases:

21. ℞ Extracti cubebæ fluidi, ℥xl–f. ʒj
Syrupi simplicis, f.ʒ ijss. M.
A teaspoonful three or four times daily.

Chronic laryngitis, dependent on syphilis or tuberculosis, requires specific treatment; local measures have but little effect.

DR. R. FOWLER, MISSISSIPPI.

This physician reports (*Transactions of the Mississippi Stae Medical Association*, 1876), his treatment of *capillary bronchitis* in children, which is, in some respects, peculiar, and from which he has had the best results.

He commences with an emetic, turpeth mineral, gr. iij, or alum, ʒj. If there is tympanites, he avoids purgatives, but gives an enema of milk of assafœtida. For the fever:

22. ℞. Quiniæ sulphatis, gr. iij
Potassii bromidi, gr. v. M.
For one dose, every three or four hours, until the fever abates.

When the temperature is above 103°, he places the child in a warm bath, to which cold water is rapidly added until the child's temperature falls to 99°. He also uses:

23. ℞. Tinct. aconiti, (Fleming,) gtt. j
Ammonii muriatis, gr. iij. M.
This amount every two or three hours to reduce the circulation and thin the mucus.

The local treatment is important. He directs a mustard cataplasm every six hours to the posterior portion of the thorax; and in the intervals, have a constant relay of warm mush poultices completely enveloping the chest, preceded by thoroughly anointing the surface with camphorated oil, before the changing of each poultice.

For the cough, he uses chloral; sometimes chloroform by inhalation —and always gr. viij *iodide of iron*—the latter most frequently as an enema, in conjunction with brandy, and chicken or beef essence, and in convalescence, tonics. When all these measures fail, when the mucus collects so rapidly in the tubes, the dyspnœa becomes more and more urgent, the breathing ceases, the pulse not to be felt, he has recourse to *artificial respiration*. As a *dernier ressort*, he would especially recommend this measure.

J. M. DA COSTA, M. D., PHILADELPHIA.

24. ℞. Ammonii carbonatis, gr. xvj
Spiritûs ætheris compositi, f. ʒ iss
Syrupi tolutani,
Aquæ, āā f. ʒj. M.
A teaspoonful every two hours; a stimulating expectorant for a child a year old, affected with bronchitis of two weeks' standing.

Counter-irritation to be applied to the chest by means of weak mustard plasters, (one part of mustard to four of Indian meal). Also, if the child be much debilitated, 15 drops of brandy every four hours. When the child is seen frequently, so that the effect may be watched, there is no better treatment than relieving the lung mechanically by emetics. Hoffman's anodyne, in the above recipe, acts as a diaphoretic and quieting agent, which latter influence would not be obtained from sweet spirits of nitre.

25. ℞. Syrupi ipecacuanhæ, f. ℥ss.
Liquoris potassæ citratis, f. ℥ijss
Misturæ glycerrhizæ compositæ, f. ʒj. M.
A teaspoonful every three hours, for a child two years of age. Afterward, when the disease passes into second stage, to be changed to:

26. ℞. Syrupi scillæ, f. ℥ij
Tincturæ opii camphoratæ, f. ʒ ij. M.
Thirty drops four times a day.

27. ℞. Syrupi ipecacuanhæ, f. ʒj. M.
A teaspoonful every ten minutes until vomiting is produced; to be repeated every second day. For ordinary acute bronchitis in a child a year old. Together with:

28. ℞. Ammonii carbonatis, ʒ ss
Syrupi senegæ, f. ℥ss
Syrupi tolutani, f. ʒ j
Aquæ, f. ℥ijss. M.
A teaspoonful thrice daily.

J. M. JULIAN, M. D., HOBOKEN, N. J.

In the suffocative capillary bronchitis of children, says this writer, (*Medical Record*, October 2d, 1871,) the indications are to get rid of the excessive mucous secretion as speedily as possible. For twenty-five years he has used for this purpose, with eminent success, the following:

29. ℞. Zinci sulphatis, gr. xij
Tincturæ sanguinariæ, f. ʒ ij
Aquæ, f. ℥ iss. M.

A teaspoonful in mild cases to a child one year old, every three hours; in severe cases, triple the dose, and give it every half hour or hour, regardless of vomiting.

PROF. JOHANN STEINER, M. D., PRAGUE.

In chronic bronchitis and allied conditions, where there is debility and much irritation from the cough, this author has seen very great relief from the following prescription:

30. ℞.	Quiniæ sulphatis,	gr. ij	
	Pulveris foliæ digitalis,	gr. vj	
	Extracti opii,	gr. j	
	Pulveris sacchari albi,	ad ʒj.	M.

Divide into twelve powders; one every three or four hours.

DRS. MEIGS AND PEPPER, OF PHILADELPHIA.

According to these authors, the acute simple form of bronchitis is frequently so mild as to need no other treatment than careful attention to the hygienic condition of the patient, and the administration of some simple febrifuge and expectorant. The child ought to be confined to one room, in a mild and uniform temperature, and should be kept quiet until the developement of the symptoms shows what is to be the type of the attack. Our authors believe that the practice of keeping the body quiet in all febrile disorders, is one of the most important therapeutic means we have, and they strongly recommend that in bronchitis, children should be kept in bed. The clothing ought to be warm, and yet not sufficient to produce free perspiration, as this, by sudden exposure and evaporation, often induces chilliness. The diet must be simple, and may consist of any of the milk preparations, with or without bread, or bread and butter. Light soups in the middle of the day, or roast potatoes or apples, with bread, may generally be allowed. When fever sets in, our authors order:

31. ℞.	Potass. citrat.,	ʒj	
	Syr. ipecac,	f. ʒj–ij	
	Tinct. opii camph.,	f. ʒj–ij	
	Syrup simpl.,	f. ʒss	
	Aquæ,	q. s. ad f. ʒiij.	M.

S.—Teaspoonful every two or three hours, for a child of from two to four years.

This should be given until the child sleeps, and occasionally in the night, if there be cough and restlessness. At six months of age, the following may be used in the same manner:

32. ℞. Syr. ipecac,
Tinct. opii camph., āā f. ʒss
Spts. æth. nitrosi. vel.,
Liq. ammonii acetat., f. ʒij
Syr. simpl., f. ʒv
Aquæ, f. ʒij. M.
S.—Teaspoonful every two hours.

If the fever is very slight, and the cough only moderately severe, it is often well to use no drug through the day, but, to give in the evening, two hours before bed-time and again at bed-time, some simple expectorant and anodyne. Thus at two or three months of age, three to five drops of syrup of ipecacuanha with five of paregoric, or half a drop to a drop of laudanum; at one or two years of age, ten drops of the syrup, with ten to twenty of paregoric or two of laudanum; at five to ten years, ten to twenty drops of the syrup, with twenty to thirty of paregoric, or four or five of laudanum. The laudanum is often better than paregoric, as it produces a more decided and lasting impression on the nervous system, and appears to extend its useful control over the symptoms further into the following day. In this very mild form there is no necessity for giving active purgatives. If the bowels are moved once in the day, or once in two days, it is best not to interfere with them. If, however, the patient be constipated, a little simple syrup of rhubarb, a teaspoonful of castor-oil, or an enema, will be quite sufficient. A warm foot-bath, in the evening, containing salt, or better, mustard, will often assist in moderating the cough and promoting quiet sleep. If, as the case progresses, the bronchial secretions become very abundant and the dyspnœa severe, the proper remedy is an emetic. This may be ipecacuanha, either in powder or syrup or a teaspoonful of powdered alum, to be repeated, if necessary, in ten or fifteen minutes. Great benefit may be obtained in all forms of bronchitis, from the more or less frequent application of mustard poultices to the front or back of the thorax, and from mustard foot-baths. The occurrence of gastric disturbance, with coated tongue, anorexia, and a torpid state of the bowels, may, in some cases, call for the administration of a single dose of blue mass, followed by a mild saline laxative. When the patient is over two years of age, and the oppression very great, the right heart laboring, as shown by a congested surface and a throbbing cardiac impulse at the base and left edge of the sternum, and the strength not too much reduced, the abstraction of from two to four ounces of blood from the interscapular space by cups or leeches, would

be a useful legitimate practice. If the temperature is very high and the pulse full and strong, small doses of sulphurated antimony (gr. $\frac{1}{12}$, in combination with Dover's powder every two or three hours), will be very useful in moderating the inflammatory symptoms. Should nausea or vomiting with exhaustion follow, they must be suspended at once.

Counter-irritation is a very important part of the treatment. It may be obtained by the application of dry cups to the back of the chest, or if this be inconvenient, or be objected to for any cause, by the use of mustard poultices, which should be applied first to the dorsum of the chest, and after having reddened at that point, it should be shifted to the front of the thorax.

In very young infants ipecacuanha is much safer than antimony, and it is quite active enough. When the child presents a pale surface and a languid expression, and particularly when the surface is very slightly warmer than usual, or cool, the following prescription has proved most useful:

33. ℞.	Liq. ammon. acetat,	f. ℥ss	
	Syrup ipecac,	f. ℥j	
	Liq. morph. sulphat.,	gtt. xl	
	Syrup. acaciæ,	f. ℥j	
	Aquæ,	f. ℥iss.	M.

S, Teaspoonful for a child two years old, to be repeated every two hours.

If there is any nausea, the ipecac should be reduced to half the quantity; and if there be any drowsiness, the morphia should be left out.

It often becomes proper and necessary to make use of *stimulants*. In the suffocative form, when the symptoms become urgent, small doses of brandy or wine-whey may be administered alternately with the spirit of mindererus. In milder cases, when the symptoms indicate that collapse of certain portions of the lung has taken place, it is best to abandon for the time all nauseating remedies, and to make use simply of brandy in doses of from five to twenty drops every half hour or hour, or wine-whey in dessert or tablespoonful doses and of counter-irritants, with very light fluid nourishment.

In cases where there is marked debility, our authors have used, with advantage, small doses of quinine, as follows:

34. ℞.	Quiniæ sulphat,	gr. vj	
	Acid. sulph. dil,	gtt. xij	
	Syr. simpl,	f. ℥ss	
	Aquæ,	f. ℥iiss.	M.

S.—Teaspoonful every two hours, to children two or three years old. If this should sicken, as it sometimes will, by the disgust its bitterness produces, and the consequent resistance to the doses, it is best to lay it aside after two or three trials and to use the following :

35. ℞. Elix. cinchon. flav., f. ʒ ij
Curacoa, f. ʒ ij
Acid. sulph. dil, ♏xij
Aquæ, f. ʒ iiss. M.
S.—Teaspoonful every two hours.

In chronic bronchitis, our author recommends daily frictions with

36. ℞. Ol. tiglii, f. ʒj
Ether sulph., f. ʒ j
Tinct. iodinii,
Alcoholis, āā f. ʒ iij. M.
S.—Use locally.

DR. R. L. MOORE, OF MINNESOTA.

In capillary bronchitis, this physician uses

37. ℞. Ipecac (pulv.), ʒij
Sacch. alb, ʒij
Aquæ fervens, f. ʒiv. M.
S.—Keep hot and give teaspoonful every hour until relief is procured.

CHRONIC BRONCHITIS.

DR. ROBERTS BARTHOLOW, OF PHILADELPHIA.

This author calls attention, in the *Medical and Surgical Reporter*, 1880, to the danger that may result from chronic bronchial catarrh. A succession of *colds* may produce a condition of catarrh extending from the nose down to the ultimate lobules in the lungs, the entire length of the bronchial tubes, as well as the upper air passages. In after life many of these children have emphysema and asthma, because when the ultimate bronchioles are involved, the air vesicles beyond them are very apt to collapse: the bronchial tubes being filled with viscid mucus, the residual air escapes and the sacs become permanently closed, while the neighboring sacs will eventually dilate.

The first thing to be done is to clear the bronchial tubes of this mucus. Mechanically this may be accomplished by emetics. The subsulphate of mercury is the best, from all points of view, as it is efficient

and does not depress the patient (gr. ij–iij, in any suitable vehicle). What can be done to prevent the formation of this mucus ? The iodide of ammonium, for a child of this age, two grains every two hours, would be very useful. This is more efficient if arsenic be prescribed with it (Fowler's solution, gtt.j, four times daily). If the difficulty in breathing be not very great, we get very excellent results from the use of turpentine, which, taken into the stomach, is eliminated by the air passages. (Of this give gtt. ij–iv every four hours). Eucalyptol is also very efficient.

If the temperature rises, he gives quinine, five grains every four hours. Though this may seem like heroic dosing, it is necessary, because if this condition is not arrested, it may lead to serious changes in the lung structure, producing chronic catarrhal pneumonia, one of the varieties of pulmonary consumption.

NOTES ON REMEDIES.

Aconitum, in half or quarter-drop doses of the tincture in the first stage of acute bronchitis, is very efficient.

Ammonii Carbonas. Dr. STIERLIN, of Schaffhausen, recommends carbonate of ammonia rather than emetic or other treatment in the bronch-pneumonia of young children and in the catarrhal attacks of infants. His doses range from gr. v–xx.

Ammonii Murias. Dr. H. C. WOOD (*New Remedies*, April, 1872,) has obtained, in obstinate acute bronchitis, after the first intense stage, more apparent good from the use of muriate of ammonia than any other remedy. The best formula is as follows :

38. ℞. Ammonii muriatis, ℥ij
Extract. glycyrrhizæ, ℥j
Mucilag. acaciæ,
Aquæ, āā f.℥iij. M.

One teaspoonful every three hours for a child a year old.

Ipecacuanha. Dr. BEDFORD BROWN (*American Journal of Medical Sciences*, October, 1870,) has found the early use of an emetic of ipecacaunha very serviceable in a number of cases in children ; a combination of ipecacuanha and quinine being continued afterwards.

Hydrargyrum. Dr. J. C. THOROWGOOD (*Practitioner*, May, 1878,) has found frictions with *oleate of mercury* to disperse threatening pulmonic dullness in bronchitis. Particularly in catarrhal bronchitis tending to pneumonia, with blocking up of air-cells and consolidation of lung, he believes we may employ mercury without fear.

Quiniæ Sulphas is called for to reduce the fever in pyrexial cases, (F. 22,) and also as a tonic in convalescence.

Tannicum Acidum. In very chronic cases attended with persistent mucous râles over the basis of the lungs, tannic and gallic acids are especially useful. (ELLIS.)

Veratrum Viride is employed in the early stages by Dr. J. LEWIS SMITH and others. (F. 20.)

CEPHALHÆMATOMA.

DR. EDWARD HENOCH, OF BERLIN.

According to this author the treatment should be purely effectant. He resorts to incision, only when the tumor threatens to suppurate and discharge, a termination which is exceedingly rare. It is well, under all circumstances, to place a soft covering (cotton) over the tumor in order to protect it from injury, when it will nearly always disappear, by absorption, in a few weeks.

DR. M. H. BATTERSHALL, OF MASSACHUSETTS,

Reports a case in the *Medical Record*, 1883, wherein compression, cold lotions and spirituous washes, all failed; he then resorted to aspiration and drew off two ounces of very dark sanguineous fluid, then applied a compress, which was removed at the end of three days, revealing a healthy, normal condition.

CHOLERA INFANTUM.

DR. ARMAND SEMPLE, OF LONDON,

Sums up the treatment by saying that it must be the same in principle as that of the indigestion of weaning, but the measures must be very prompt. Immediate efforts should be made to arrest the purging and vomiting. The strength should be supported and stimulants given if necessary. Port wine may be given with arrow-root, and brandy and water, or a little burnt brandy, will be found serviceable. Warm applications, frictions, sinapisms or liniments may be necessary, and the internal remedies should consist of catechu or kino with spirits of ammonia or spirits of chloroform. The ammonio-citrate of iron and chalk will be

found valuable; *after recovery from cholera infantum, even though the bowels continue long confined, purgatives should be carefully avoided.*

DR. EDWARD HENOCH, OF BERLIN,

Considers that the great danger of the disease explains the large number of remedies that have been employed. In his opinion there is no specific against cholera infantum, because we are unable to destroy the infectious germs that have entered the stomach and intestinal canal. Neither quinine, carbolic acid nor salicylic acid have proved efficient, and hydrate of chloral only possesses a palliative effect on the vomiting. As it is impossible to destroy the true producers of the disease, it only remains to combat their effect, *i. e.* the fermentative processes produced in the stomach and intestines; and in all cases in which the quantity of the infectious material introduced has not been too large, we may succeed in securing recovery, after the complete evacuation of the toxic and fermenting substances. In the opposite event, treatment will be useless, and the children will die, despite all our efforts. He therefore considers that the immediate administration of opium, which serves to keep the offending masses in the intestinal canal, is very much out of place. In recent cases, *i. e.* in the first two or three days, he gives small doses of calomel.

39. ℞. Calomel, gr. j
Sacch. alb., gr. j. M.
S.—Give this powder twice a day, and hydrochloric acid.

40. ℞. Acid hydrochlor., gtt. j–xv
Aq. destil., f. ℥ iij
Gum arab., gr. xv
Syr., f. ℥ v. M.
S.—Teaspoonful every two hours.

Or:

41. ℞. Creasoti, gtt. ij–iv
Aq. destil., f. ℥ j
Syr., f. ℥ ss. M.
S.—Teaspoonful every two hours.

When signs of weakness appear, he orders twice daily a warm chamomile bath, in which the children remain five to ten minutes, and port or sherry wine, (20 drops to a teaspoonful, according to age), every two or three hours. Wine is often retained, when other articles

of food and medicines are immediately rejected. He advises milk only when cooled with ice and given by the teaspoonful. If the case has continued for a few days, then he commences the use of opium. He adds three to ten drops of laudanum, according to age, to the hydrochloric acid mixture, and sometimes gives a starch injection, containing one or two drops of laudanum, several times a day. The sick room should be as large as possible, and the bed-linen be kept carefully clean. When the hydrocephaloid condition becomes more marked, he uses injections of camphor,

42. ℞.	Camphoræ,		gr. j	
	Spirit vini.,			
	Aq. destil.,	āā	f. ʒj.	M.

S.—Inject a hypodermic syringeful.

Cold champagne (a teaspoonful to a tablespoonful at a time), and he finally resorts to hydropathic applications and effusions of the whole body.

M. JULES SIMON, OF PARIS.

Where there is considerable abdominal pain, with adynamia, this author recommends the following:

43. ℞.	Bismuthi subnit.,	ʒj	
	Vini (Malaga),	ʒss	
	Syr. quinquiniæ (fr. cod.),	ʒj	
	Aquæ,	ʒiijss	
	Tinct. opii (at two years),	gtt. ij.	M.

S.—A teaspoonful may be given every hour or every second hour until the pain disappears.

As drinks during this period, rice water, albuminous water, and Sydenham's white decoction may be given.

DR. S. K. JACKSON, OF VIRGINIA.

This gentleman told a recent meeting of the Medical Society of the State of Virginia (1883), that he had never had a case of this disease in his practice, since he had commenced the use of the following preparation. He gives to any child that is liable to contract the disease

44. ℞.	Sodii sulphit.,			
	Sodii hyposulphit.,			
	Sodii bicarbonat.,	āā	gr. xxxij	
	Syr. rhei aromat.,		f. ʒii.	M.

S.—One teaspoonful or less, according to age, every two hours each morning, until two or three doses are taken.

DR. H. C. SHUTTEE, OF MISSOURI.

This author (*St. Louis Courier of Medicine*, 1884), has had the best results with small doses of *opiates*, *tannin*, *creasote* and *stimulants*. Opiates, however, require caution in their use. Very small doses of calomel, dry on the tongue, have often a good effect on the vomiting. He has frequently used the *compound tincture of iodine* with success, to control the vomiting, but like everything else it often fails. He allows water to be used abundantly, even if it is rejected in a short time, for some of it will be absorbed to supply the loss in the serous discharges. Alcoholic stimulants are advantageous in all cases. Warm sponging or bathing, if the surface be hot or dry, is soothing. As collapse approaches, stimulants must be increased. As soon as vomiting is arrested, plenty of easily digested nourishment should be administered.

DR. WILLIAM B. ATKINSON, OF PHILADELPHIA.

According to this author (*Medical and Surgical Reporter*, 1880), cholera infantum may commence abruptly, or may be preceded by a diarrhœal stage. The latter is by far the most commonly observed. For several days the bowels are loose, the evacuations quite thin and of a yellow or pea-green color, and in other cases nearly natural in color but of a watery appearance. This may continue for several days, and suddenly there occurs an explosion of the disease, heralded by very frequent stools, consisting almost wholly of water, often colorless and without odor, and along with this there ensues great irritability of the stomach, so that it almost instantly rejects everything that is taken. This irritability speedily extends to the lower intestine, so that the evacuations are actually squirted from the anus, often in a frothy state. Where the preceding diarrhœa has existed for a time, emaciation has gradually occurred, but when the attack is sudden, it is remarkable with what rapidity the child assumes the appearance of one that has been sick for a long time. Within a few hours it comes to look like a little "old man," with pinched features, sunken cheeks, hollow eyes, the fingers long and bony; in short, it presents every symptom of an extremely rapid abstraction of the fluid constituents of the body. In no way can we be enabled so readily to appreciate the fact that the fluids are so greatly in excess of the solids in the human body, as when we see one of these shriveled little mortals, a living skeleton, eagerly demanding fluids, which are almost instantly rejected. In many

instances, the change of a few hours is so great that even those constantly in attendance upon the child fail to recognize a familiar feature.

The progress, unless fortunately checked, is now rapidly downward; the dejections soon become almost clear water, and pass away involuntarily; the child lies motionless, or with an occasional fretful fling from side to side; there is the most intense thirst; fluids are swallowed with eager haste; there is little or no pain; great acceleration of the pulse without force; the eyes remain half closed, the lips parted; coma sets in, and death soon closes the scene.

One great peculiarity of the stools is their entire want of odor, or the presence of a musty smell, which is very offensive, and the presence of minute flocculi, so as often to give them the appearance of rice-water; hence the name rice-water discharges; as a general rule, the urine is scanty, and often is wanting.

In the early stages of the attack the temperature usually runs high, perhaps as high as in any disease of childhood, 105°–107°, but reduction of heat rapidly ensues, commencing at the extremities, the abdomen and head being the last parts to yield and become cold.

Death usually occurs from exhaustion, and the child dies without an effort, though in some instances the irritation seems to extend to the brain and spine, and convulsions occur, or the child burrows with its head in the pillow, rolls the head from side to side with a monotonous, distressing motion, apparently unaware of what it is doing, and at intervals uttering short, sharp cries. Even at an early stage it is frequently the case that the child shows its irritability by a peculiar cry, which, once heard, is apt to impress the attentive physician as the herald of some dangerous complication.

Epidemics of this disease differ in many ways. In some it seems to assume a very acute form, so that the majority of deaths occur within twenty-four to forty-eight hours. In others it is more chronic though not less fatal, and the case may be prolonged for several days or a week. When the special symptoms abate, the disease becomes nothing more than a diarrhœa, but attended with great debility.

The differential diagnosis between this and similar diseases of children is made by the peculiarity of the stools—thin, watery, soon becoming colorless and odorless, or musty, irritability of stomach, great thirst, rapid emaciation, etc.

The correct treatment of cholera infantum is of great importance,

inasmuch as thus a large number of cases may be saved which appear at first hopeless, or which by careless or inappropriate management would rapidly drift down to death.

The most prominent symptoms imperatively demanding immediate relief are the irritable stomach and the exhausting evacuations. To relieve the one and arrest the other, therefore, will be the primary indication. For the first, the persistent vomiting, the exhibition of small doses of calomel, say one-twelfth to one-sixth of a grain, repeated every hour, will almost invariably suffice. It will be best given placed dry on the tongue and washed down with a sup of milk, or some bland, mucilaginous drink. Frequently, this so speedily relieves that the whole scene is changed, and often the diarrhœa is equally checked. No doubt, this latter symptom is, in many cases, more or less continued by the efforts of the child in vomiting, and that quieted, the bowels experience less perturbation.

In this connection, it must be remembered that *rest in the recumbent position* is of great value, and this should be strongly impressed upon the attendants, who, by their mistaken though kindly meant treatment of the child, materially aid in keeping up a condition which is rapidly carrying it to the grave. When the calomel fails, the use of small doses of dilute sulphuric acid will often serve to put an end to the vomiting:

45. ℞. Acidi sulphurici dil., gtt. xl
Syr. simplicis, f. ℥j
Aq. menthæ viridis, f. ℥ ij. M.
S.—One teaspoonful every half hour or hour.

To aid our remedies we may employ some form of warm fomentation to the stomach. Or, by producing a positive redness of the surface of the epigastrium, by means of a mustard plaster, great relief is frequently obtained. Other and very useful methods are poultices of hops, spice plasters, and the application of a few leeches to the surface of the epigastrium.

Additional medicaments are chloroform, in drop doses frequently repeated, mixed with mucilage of acacia and a little syrup, followed immediately by the application of a small piece of ice in a cloth, so that it may slowly be dissolved; small doses of camphor dissolved in ether; or powders of the subnitrate or subcarbonate of bismuth.

To arrest the frequency of the discharges, a very useful remedy is

the subnitrate of bismuth, in five to ten grain doses, with the compound powder of ipecacuanha:

46. ℞. Pulv. ipecac. comp., gr. iv–vj
Bismuthi subnitrat., ʒj. M.
Ft. in chartulæ, No. xij.
S.—One every two to four hours, according to circumstances.

Where the exhaustion is great the bismuth may with much advantage be combined with the aromatic spirits of ammonia, which is a most excellent stimulant in all cases of exhaustion in children; or it may be given separately while the bismuth is continued, with or without the ipecac powder. In employing any narcotic, particularly opium, great watchfulness must be observed as to its results. It is always contra-indicated where the disease is complicated with brain symptoms. Give it in small doses, with care, and withdraw it as soon as the evacuations are checked, or if necessary, continue it in greatly reduced doses. For children, the camphorated tincture of opium is preferable to the tincture.

The diet must be mainly milk, with lime water, beef tea, mucilaginous fluids. Brandy or whisky should be added from the outset, and continued in small but frequently repeated doses, until recovery has proceeded so far as to render stimulation unnecessary. To relieve the intense thirst, ice in small pieces may be rubbed over the gums and allowed to dissolve in the mouth, or a teaspoonful of cold water, at short intervals, may be given. The child should never be allowed to suffer for want of it.

Frequent sponging with alcohol and water, or tepid water alone, will prove advantageous. This is better than the use of the bath, as the necessary movement of the patient is liable to add greatly to the exhaustion, or to induce it. In addition to these measures, there must be the most scrupulous attention to ventilation and cleanliness. Never allow the child to remain in an overcrowded room; better that it should sleep in the open air night and day.

Perhaps a most fruitful cause of bowel affections in children, and also in adults, is exposure to a draught at night, or rather toward morning, when the temperature is usually at its lowest. In their restless tossing, by reason of the heat, they become completely uncovered, and so lie exposed; the legs and abdomen are chilled, producing congestion of the bowels, and a diarrhœal attack ensues.

Regarding cholera infantum as usually, if not invariably, the result of congested bowels, good effects have been observed after the employment of a positive counter-irritant to the surface of the abdomen, and also to the whole length of the spine. The best rubefacient is a liniment composed of ammonia, turpentine and castor-oil:

47. ℞. Liq. ammoniæ, f. ʒij
Ol. terebinthinæ, f. ʒij
Ol. ricini, f. ʒiv. M.
Ft. linimentum.

Rub the abdominal surface and the spine briskly with this, so as to redden the skin, and repeat about every two hours. In many instances immediate good results follow, and the patient rapidly convalesces.

As the case progresses tonics may be given, to aid the recovery of strength.

Quinine is especially the children's tonic, is readily tolerated, and rarely fails to prove of value. As a tonic for weak bowels, the solution of nitrate of iron cannot be excelled. It is best combined with a vegetable bitter.

In those cases where the progress is less favorable, where the brain becomes involved, it will be necessary to employ cool or cold applications to the scalp, and this may be best done by the use of the ice cap, ice in a rubber bag or bladder, or pieces of ice in a folded towel. At the same time, hot pediluvia, sinapisms or rubefacients to the lower extremities, will aid in inviting the blood from the brain. It must not, however, be forgotten, that cerebral symptoms may be simulated by exhaustion, for which the proper treatment will be more positive stimulation and larger doses of quinine and iron in some form. Blisters in very young children are always a remedy of doubtful value. Often they do not seem to produce sufficient advantage to compensate for the annoyance they give the little sufferer. A blister should never be placed upon the nape of the neck, as we thus inflict upon a child a terrible punishment, compelling it to lie almost wholly upon its face, in order to escape the irritation caused by the rubbing and pressure of the blistered surface upon the heated pillow. When deemed absolutely necessary, they may be applied behind the ears, and most easily by means of the blistering collodion.

Where there exists positive evidence of cerebral congestion, a better

plan will be the application of two or three leeches to the temples, being careful not to allow the bleeding to continue too long, and thus complicate the case further. After this the cold applications may be continued as indications present.

For great restlessness, and to insure a good sleep, bromide of potassium or sodium, and chloral may he given without hesitation, and with the expectation of good results.

Finally, never despair of a happy issue, as we constantly see cases, apparently desperate, recover, as if to confound our evil prognostications. Persevere judiciously, but earnestly, until death itself prevents further efforts.

With convalescence, it must constantly be borne in mind that relapse is extremely liable to occur. Therefore, eternal viligance will be necessary in the diet, ventilation, clothing and exposure.

DR. ELLWOOD HARVEY, OF PENNSYLVANIA.

This author in a paper read before the Medical Society of the State of Pennsylvania, 1879, calls attention to the efficacy of *blisters upon the head* in controlling cholera infantum. In mild cases they may not be needed, but in every case the patient is sooner well when they are used. In severe attacks they seem to be indispensable. They should be put upon the denuded scalp, not upon the bare skin, and should be left on until they have done all that they can do. If taken off too soon, they do very little good, though the cuticle may be raised. The hair must be cut off close to the scalp, and suitable places are the sides of the head above the ears. If the cerate of cantharides is spread thick, about as large as a silver dollar, or larger, on surgeon's adhesive plaster, with a margin of plaster to secure adhesion to the scalp, and the adhesive border clipped with scissors toward the centre so as to secure a smooth application, and if the plasters are then kept on for eight or ten hours, there will not be a failure. The serum that discharges upon the neck and ears, should be carefully washed off, or it will cause blisters on the bare skin, where they are annoying.

DRS. MEIGS AND PEPPER, OF PHILADELPHIA.

After noting the prophylactic treatment, our authors divide the treatment of the attack into three stages, those of *evacuation*, *collapse* and *reaction*. If it be found that the child has certainly eaten some unwholesome article of food, and that it has not come away in the dis-

charges, then it is right to give at first a moderate purgative, such as castor oil or syrup of rhubarb, with a small dose of laudanum, or two drops of chlorodyne, for a child two or three years of age. If two hours after the use of these drugs the stools still continue frequent and watery, they resort to the chalk mixture, with tincture of krameria and laudanum or paregoric. In the stage of *collapse*, supportive treatment is called for. Ten or fifteen drops of old and delicate brandy in a teaspoonful or tablespoonful of ice-water, ought to be given every hour or two hours, at one year of age. Our authors allow ice and cold water, almost without limit, to children in this condition, and they consider it a most important and much neglected item of the treatment. During the stage of collapse, the only available food is thin chicken tea, Liebigs' cold extract of beef or weak wine-whey, given in small doses frequently repeated. It is worse than useless to attempt more than this, as not only is it not retained, but it evidently tends to keep up the nausea and vomiting, and thus retard the natural effort at reaction. It is best to keep the child in bed, but if it clings to its mother's or nurse's lap, its inclination should be gratified. When the tendency to cooling of the body shows itself, and this is usually first noticeable in the hands and feet, ears and nose, he should be kept wrapped in warm, dry and soft flannels or blankets. Flannels heated at the fire, thus supplying dry artificial heat, are of great use here. Bottles or tins filled with hot water, ought to be placed at the feet, under the blanket. A warm, soft, and light poultice of Indian meal or flaxseed, with a little mustard incorporated with it, may be placed over the abdomen, or three or four thicknesses of flannel, wrung out of hot water and whisky, may be laid over the lowest part of the thorax and abdomen, and covered with oiled silk, to retain their heat and prevent the wetting of the clothes.

When the case takes a favorable turn and the *reaction stage* begins, it is usually best to do nothing more than supply food and water carefully, and keep the body tranquil and quiet. A very good food is that made of equal parts of milk, cream, lime water and plain water. If the case progresses well, drugs are not needed; if however, the fever runs high, we may use small doses of the spirits of nitrous ether. If, as often happens, the urinary secretion remains scanty, water, in such quantities as the stomach takes willingly, makes the best diuretic. In the early stage of cholera infantum, before collapse has begun, and whilst the child is still reasonably strong, and particularly when there is marked febrile heat and dryness of the body, the use of the warm or

hot bath, or of sponging with hot water and spirit, are excellent measures. The bath may be used twice or even three times a day, if the child does not resist and scream. The temperature should be 95° to 98°, and the child may be kept in the water from five to ten minutes. It is an excellent plan to wrap the child, directly upon lifting it from the bath, in a heated muslin sheet, and to apply over this a blanket and keep it, thus enveloped, on the lap, for half an hour or more, if it is comfortable and disposed to rest. If the child be somewhat weak, whiskey added to the water, makes the bath more useful and safe.

J. LEWIS SMITH, M. D.,

Professor in Bellevue Hospital Medical College, New York. Prompt measures are required in cholera infantum, as the child rapidly sinks under the prostrating influence of the frequent watery discharges. Some evacuant is indicated at the outset, if there be any irritating material in the stomach or bowels, causing or keeping up the trouble. Small doses of ipecacuanha (from two to five grains) are often beneficial. When, however, the stomach is irritable and the alvine discharges fail to carry off the intestinal contents, *calomel* is the great remedy. As it is slow in its operation, castor oil may be administered after it with benefit, or its operation may be aided by a simple enema. It should not be given to the extent of more than one or two doses.

If there be no indigestible substance in the intestines, purgatives are contra-indicated, as they are then hurtful. The continuance of the diarrhœa for several hours affords a pretty sure evidence of the removal of any irritating matter which may have been present, and hence no purgative is required. The objects of the treatment then should be to diminish the frequency of the evacuations, and improve their character. No time should be lost. *Opium* in some form is the chief reliance.

If laudanum be used, it may be administered in one-drop doses, every two or three honrs, to a child one year old. Its effect should be watched. If the evacuations are partially checked, and there are signs of stupor, stop the opiate, or at least give it less frequently.

Astringents, and often alkalies, may be employed as adjuvants to the opium. The opiates and alkali may be employed in the following combination:

48. ℞. Tincturæ opii, gtt. xij
Misturæ cretæ, f.℥iss. M.

One teaspoonful every two or three hours to an infant one year old.

To this mixture an astringent may be added, as tincture of catechu or kino. It should be borne in mind, however, that astringents are less tolerated by an irritable stomach than opium or chalk. When they are vomited, therefore, they should be discontinued, even in cases in which they would doubtless be serviceable if the stomach were retentive.

By means of the opiate and astringents, if they be retained, the passages are rendered, in a few hours, less frequent, and the stools more consistent.

In cases in which calomel is employed our author does not recommend its use in larger doses than one-fourth of a grain morning and evening (together with the astringent and opiate), to a child of one year.

Dr. S. also advises small pieces of ice in the mouth at the beginning of the attack, to combat the irritability of the stomach, and the application of mustard to the epigastrium.

In most cases, Bourbon whiskey or brandy, the best of the alcoholic stimulants, are required. They should be used from an early period of the disease, both for the purpose of sustaining the vital powers and of diminishing the gastric irritability.

The diet should be simple, but nutritious, and taken often, but little at a time. If the child be at the breast, it should be confined to the mother's milk. If it be weaned, cold barley or rice-water, with whisky or brandy, should be given in the commencement of the attack; afterward, milk or broth may be employed in addition.

49. ℞. Creasoti, gtt. j
Aquæ calcis, f. ℥ij. M.

One teaspoonful with a teaspoonful of milk, breast milk if the infant nurses, repeated as required, for the vomiting so frequent in the summer epidemics of intestinal inflammation, in the cities.

This recipe is much used in the Nursery and Child's Hospital of New York city. Or, the following may be administered:

50. ℞. Potassii bicarbonatis, gr. xxv
Acidi citrici, gr. xvij
Aquæ amygdalæ amaræ, f. ℥ j
Aquæ, f. ℥ij. M.

Teaspoonful, repeated as required.

MEREDITH CLYMER, M. D., NEW YORK.

This author gives the following indications for the treatment of *cholera infantum:*

The instantly threatening symptoms, purging and vomiting, are to be stopped. Fermentation and not chymification, is going on in the stomach and duodenum. Hence, small doses of the *bisulphites of sodium and potassium*, with limed whey, will often act very happily, while the effect of poisonous drugs is always doubtful, and generally, positively harmful. *Mercury* is, at best, negative. *Opium* and its preparations will be found valuable, if not contra-indicated by cerebral epiphenomena. The effects should be carefully watched. Flannel, wrung out of hot water, and on which laudanum is poured, applied to the spine, will be found useful in checking vomiting. The function of the skin, which, in common with all the excreting organs, is inactive, must be excited. This may be done by gentle friction with woolen cloths, or a warm alkaline bath, in which the little patient should not remain longer than three minutes, being then quickly dried and wrapped in flannel. Food, of proper quality and quantity, should be given as soon as the stomach and bowels will tolerate it. Farinaceous articles are entirely inappropriate. Limed milk, to which a little gelatine has been added, or rennet whey, may be given; but in protracted cases, attended with great prostration and rapid emaciation, the *raw meat diet*, prepared as recommended by Prof. Trousseau, will be often seized with avidity and well borne. Lean beef or mutton is first finely hashed, pounded in a mortar to a pulp, and then passed through a fine sieve. The thick concentrated juice thus obtained is nutritious and digestible, and, when salted or otherwise flavored, quite acceptable. Give a half to three-quarters of an ounce, in fractional doses, the first day. If well borne by the stomach, increase the quantity day by day, until a quarter or half a pound is taken in the course of the twenty-four hours. For the first day or two, much of it may pass, hardly changed, from the bowels; but this alone should not occasion its discontinuance. If too long continued, however, this diet is liable to generate tænia. White of eggs, thinned with natural or artificial Seltzer, Vichy, or weak lime water, is an excellent drink, to which a few grains of bicarbonate of soda may be added. Tonics and stimulants are often required. Of the former, minute doses of *arsenic*, alone or combined with quinine, or the chloride of iron, or the pernitrate of iron, or the tincture of nux vomica, may be given. Wine whey, or brandy and water, to which a few drops of the aromatic spirits of ammonia have been added, are the best stimulants. The effect of sending the patient to a cool and mountainous region is immediate and lasting.

THOMAS HAY, M. D., PHILADELPHIA.

This practitioner has employed the following treatment in cases of cholera infantum, with the best results:

51. ℞.	Hydrargyri chloridi mitis,	gr. ij	
	Bismuthi subcarbonatis,	gr. xvj–xl	
	Pulveris ipecacuanhæ compositæ,	gr. j–ij	
	Pulveris sacchari albi,	gr. xij.	M.

For eight powders; one to be taken every three hours, for two or three days, or until the tongue and mouth become moist, and the alvine excretion changed in color and consistency.

Then the following powders are given, and will ordinarily complete the cure:

52, ℞.	Bismuthi subcarbonatis,	gr. xvj–xl	
	Pulveris ipecacuanhæ compositæ,	gr. j–ij	
	Pulveris aromatici,	gr. viij–xvj	
	Pulveris sacchari albi,	gr. xij.	M.

For eight powders; one to be taken every three or four hours, in the mother's or cow's milk.

Counter-irritation is kept up over the abdomen with mustard plasters, applied at intervals of three or four hours. The infant is allowed to suck at a piece of ice held in its mouth. When stimulants are required, the doctor gives from 15 to 30 drops of port wine. When the infant is artificially fed, he gives it cow's milk and lime-water, in the proportion of 1 fluid ounce of the latter to 5 fluid ounces of the former; also, broiled mutton or beef, minced very fine. All farinaceous food is forbidden. The child must be nursed or fed at regular intervals, and not allowed too much at a time.

PROF. N. S DAVIS, M. D., CHICAGO.

In threatening cases, this physician recommends

53. ℞.	Acidi carbolici crystallisati,	gr. iij	
	Glycerinæ,	f. ℥ss	
	Tincturæ opii camphoratæ,	f. ℥j	
	Aquæ,	f ℥iss.	M.

Give 20 drops every half hour, till the vomiting ceases, then every four hours.

54. ℞.	Hydrargyri chloridi mitis,	gr. iv	
	Pulveris opii,	gr. j	
	Sacchari albi,	gr. xx.	M.

Make eight powders. Give one every eight hours.

If the vomiting ceases, but the discharge continues, and the child is fretful and emaciates, then:

55. ℞.	Olei terebinthinæ,		f. ʒij	
	Olei gaultheriæ,		gtt. xx	
	Tincturæ opii,		f. ʒ ij	
	Pulveris acaciæ,			
	Sacchari albi,	āā	ʒiv	
	Aquæ,		f. ℥ iij.	M.

From 15 to 30 drops every three or four hours.

DR. BEDFORD BROWN, VIRGINIA.

The great danger in cholera infantum, according to this writer (*Medical Times*, September, 1877), is the supervention of thrombosis or embolism. When this is once established, the case is almost hopeless. But much may be done to prevent it.

In the first place, it is necessary, as far as possible, to avoid the paralyzing influence of a high degree of temperature on the system. A change of 20° will almost invariably accomplish that result. If this be not practicable, then one of our best correctives is the use of the *cold bath*, systematically, night and morning, followed by ample and efficient friction previous to and during the attack. Whenever re-action follows, good is certain to result. Secondly, vomiting and purging must be arrested, for the purpose of preventing undue waste from the blood-vessels. For the latter, the remedies are enemata of water, frequently repeated, containing, in minute solution, alum or tannin, glycerine, and an appropriate portion of tincture of opium. In these cases, water is better than starchy matter, as a vehicle, as it aids in supplying the wasted serum. To arrest vomiting, *bismuth*, combined with minute quantities of cerium and alum, and the free use of ice and iced gum-water, are advisable. They must be given in small doses, repeated every half hour or hour.

In regard to food and drink, iced gum-water may be used *ad libitum*, in bad cases. Nutriment must also be given in a perfect state of solution, ready for rapid and easy absorption.

The form of the particular nutriment to be adopted in cholera infantum, is a question of vital moment, and one on which depends the final result.

During an attack, food containing fibrinous or caseous matter, cannot be digested. Albumen in extreme dilution, as that of eggs beat up and highly diluted with sweetened water; the water in which good bread or crackers have been boiled; mutton or lamb broth, very delicately made; beef tea made only by extracting the juice of the fresh lean meat with cold water, and then properly cooked, constitute forms of nutriment which can be absorbed and carried into the circulation without difficulty.

NOTES ON REMEDIES.

Argenti Nitras is recommended after the subsidence of the acute symptoms.

Belladonna. Dr. Uhler, of Baltimore, has succeded in severe cases with this drug after opiates and other remedies had been tried in vain.

Bismuthi Subnitras is valuable to control the evacuations in the later stages of the disease; and as a preventive of vomiting and nausea in its earlier stages.

Cantharidis Tinctura, in doses of gtt. x at intervals of ten or fifteen minutes to a child of eighteen months has been used successfully to combat the stage of collapse, by Dr. C. L. Gregory, of Ohio. (*Cincinnati Lancet and Observer*, July, 1876.)

Carbolicum Acidum has been tried with varying results. It cannot be said to have established a reputation in this disease.

Cerii Oxalas is recommended by a writer in the *Concours Medicale* 1880; he divides four grains into ten powders, one to be given every hour to a child under two years of age.

Creasotum is often efficient in relieving the nausea and vomiting.

Cupri Sulph. is a good remedy, but only the smallest doses are admissible.

Hydrargyri Chloridum Mite has been very extensively used. In addition to authorities already given we may quote Dr. Henry Hartshorne, of Philadelphia, who advocates it, in moderate doses in the early stages, in strong language. He always gives it with an antacid, as:

56. ℞. Hydrargyri chloridi mitis, gr. ij
Sodii bicarbonatis, ℈j
Pulveris zingiberis, gr. xij. M.
Make twelve powders. One three or four times daily.

When the diarrhœa is more prominent, he gives the above; when the stomach or head is more involved, he replaces the bicarbonate of soda by magnesia.

Hydrargyrum cum cretâ. This is preferred by many practitioners to calomel.

Ipecacuanha is a desirable remedy when the stools assume a dysenteric character.

Lactopeptine administered at a sufficiently early stage modifies the secretions promptly and favorably, and leaves no after effects of an unpleasant character.

Opium in some form may be given, but with great caution.

Potassii Bromidum has been pronounced by some a specific, by others worthless. It is certainly inefficient in many cases; it is especially indicated in cases characterized by nervous irritability and feverishness.

Quiniæ Sulphas, or some similar cinchona alkaloid, is indispensable in cases of a malarial aspect.

Rheum is a very valuable adjuvant. Spiced syrup of rhubarb is a popular form. Dr. W. M. Gross, of Illinois, pronounces calcined and pulverized rhubarb the "very best" remedy for the disease. (*Ohio Medical*

Recorder, January, 1878.) He gives gr. v. to a child six months, repeating as necessary, without other medication.

Zinci Oxidum is, in the opinion of Dr. V. S. McNIDER, superior to astringents after the acute stage of the disease is past. (*Medical and Surgical Reporter*, August, 1876.)

EXTERNAL MEASURES.

Baths are of the highest importance. In the algid stage STEINER strongly urges baths of 99° to 104° Fah. combined with stimulants internally. Mustard baths of not less than this temperature may be used. As more convenient, Dr. E. W. EMERSON, of Boston, recommends wrapping the children to the chin in cloths wrung out with hot water and mustard with a blanket outside, and while thus enveloped feeding them with ice water and a little brandy. (*Boston Medical and Surgical Journal*, July 27th, 1876.) In early stages, when the temperature is high and thirst great, cool sponging or even the cool bath, is approved by some.

Emplastra. For the relief of the vomiting a spice poultice or plaster on the epigastrium is often of service.

CHOREA.

DR. EDWARD HENOCH, OF BERLIN.

Arsenic holds the first place in the estimation of this distinguished authority, but even this drug does not show any constant effects. He orders:

57. ℞. Solut. arsen. Fowl., ♏xxx
Aquæ destil., f.℥ij. M.
S.—Ten to fifteen drops three times a day, one hour after meals.

Given in this way, it rarely produces nausea or diarrhœa. If the stomach will not tolerate the remedy, he would give it by hypodermic injection. In very severe cases the addition of a small quantity of opium seems to increase the efficacy of the above formula. If violent movements continue at night on account of insomnia, he gives chloral hydrate. But chloral is only useful in beginning treatment and must give way to arsenic, after quiet and sleep have been secured. If the patients are not anæmic, purgatives have proved beneficial. He gives purgatives in the beginning for a couple of days, and afterwards discontinues the arsenic once a week, for twenty four hours, giving castor oil or compound infusion of senna instead. Mental exertion should be avoided as much as possible during the continuance of the chorea, and attendance at

school should therefore be prohibited. In very severe cases the children must be held in bed, surrounded by pillows, to prevent contusions. Nourishing diet, pure air, cold water friction in the morning, if not distasteful to the children (lukewarm baths, in the other event), and finally preparations of iron, are to be strongly recommended as after treatment.

58. ℞. Ferri lactici vel reducti, gr. ss–j
Sacch. alb, gr. j. M.
Give in one powder two or three times a day.

DRS. MEIGS AND PEPPER, OF PHILADELPHIA.

According to these distinguished authorities on "diseases of children," the only rules to be laid down for the treatment of chorea are those which apply to all the convulsive affections depending on functional disorder of the nervous system, and on disordered states of the general health, connected with a faulty condition of the functions of digestion and assimilation. These are attention to the general health, and especially a careful regulation of the diet and other hygienic conditions of the patient, the removal of any local derangement or disease that may exert an unhealthy influence upon the nervous system, the use of tonics and iron, and the employment of such remedies as have been found to exert a controlling influence upon spasmodic and convulsive affections generally and upon this disease in particular.

When the discharges from the bowels are clay-colored, or dark and offensive, when the mouth is pasty, the tongue loaded with a thick yellowish fur, and the breath heavy, it is proper to employ a mercurial, Of *antispasmodics*, our authors prefer the root of the cimicifuga or black snake-root, valerian, assafœtida, oxide of zinc, camphor, bromide of potassium, conium and calabar bean.

The cimicifuga is given in powder, tincture, decoction, or fluid extract, and should be continued for several weeks, in gradually increasing doses, until some visible effect is produced, as nausea, headache, vertigo, or disordered vision. Our authors prefer the decoction, of which they give to children of eight or nine years old, from four ounces to half a pint a day, made in the proportion of half an ounce of the root to a pint of boiling water. The bromide of potassium has proved serviceable in cases of rheumatic origin, in combination with iodide of potassium and iodide of iron. Of the preparations of valerian, they prefer the fluid extract, of which half a teaspoonful may be given to a child eight or ten years old, three times a day, and the quantity gradually increased.

Arsenic has been used with excellent results in a large proportion of cases. They administer it in the form of FOWLER'S solution, given in ordinary doses, immediately after eating, and persisted in until some of its constitutional effects are produced. We should carefully watch for these, and immediately reduce the dose until the signs of irritation have passed away, and then cautiously increase it. The bitter wine of iron may be advantageously combined with the arsenic. In some cases, the hypodermic use of arsenic, in large doses, will prove serviceable.

When the symptoms indicate the approach of nervous exhaustion, alcoholic stimuli are to be used. Whenever the disease occurs in anæmic and debilitated individuals, ferruginous tonics are called for. The best of which are the subcarbonate, Vallet's pills, the syrup of the iodide, and the pure metallic iron (ferrum per hydrogen). Quinine may be combined with the iron. When there is any reason to suspect a tubercular predisposition, cod-liver oil should be ordered.

Cold plunge, and shower baths, as well as cold effusions to the nape of the neck and along the spine, may be used if there is full reaction and the child is willing to submit to them.

In violent cases, the patient must be confined to bed, and it may be necessary to have padded sides made for it to prevent him from dashing himself out of bed in his uncontrollable and violent movements.

CONVULSIONS.

DR. EDWARD HENOCH, OF BERLIN.

When he finds a child in convulsions, this author considers that there is no time to enter minutely into the *cause* of the attack, but you must commence treatment at once. If an attack lasts more than five minutes he does not dally with other drugs, but resorts at once to chloroform. A drachm of chloroform poured on a handkerchief and held in front of the child's nose, so that a stratum of air supervenes, often proves sufficient. When the convulsions are due to overloading of the stomach or intestines, the treatment indicated is, of course, purgatives and emetics, ol. ricini; inf. sennæ comp., etc. When the abdomen is markedly distended, it is advisable to give an enema, even during the spasm, of milk and honey (2 to 1) or of cool water, in order to empty the bowels. When worms are known to have been present or when there is good reason to suspect their presence, anthelmintics may be given.

DR. ARMAND SEMPLE, OF LONDON.

According to this author, recovery is the usual termination; but when death occurs it is usually from asphyxia, shock or syncope; in cases where the convulsions rapidly recur, the prognosis is very grave. As the frequency of recurrence diminishes, so does the danger to life lessen; but there is a risk of their becoming habitual. He thinks that there appears to be a marked relation between the convulsions of early infancy and the development of epilepsy in subsequent childhood. He considers that the chief point in the treatment is to ascertain the cause. The child should be placed at once in a warm bath, cold water being simultaneously poured over the head and face. For great distortion of the body during the fit, he uses chloroform; though there is no necessity to produce deep anæsthesia. If dentition is the cause, and the gums are tense, they should be freely lanced. If irritation of the bowels is present, they should be cleared by appropriate remedies. Worms should always be suspected, and remedies suitable for their removal should be given. If the child cannot swallow, an enema may be given in the intervals of the convulsions; to ward off the attacks, he regards the bromides of potassium and ammonium as useful. If there is sleeplessness, a few grains of hydrate of chloral often do good. When the convulsions have ceased, the proper remedies are cod liver oil and iron preparations, such as vinum ferri and syrupus ferri hypophosphitis.

DR. C. POLLOCK, OF INDIANA.

This author relates, in the *Medical and Surgical Reporter*, 1883, the case of a healthy baby aged five months, in whom very severe convulsions were caused by a narrow prepuce which enclosed a large amount of smegma, which had irritated the glans penis and caused the convulsions by reflex action. This is a cause that is often overlooked by both physicians and parents, and yet it is a not infrequent cause of infantile convulsions that are overlooked or attributed to some other cause. Dr. POLLOCK slit up the prepuce and removed the smegma, and as soon as the cut surfaces healed, the convulsions ceased.

DR. CHARLES BELL, OF SCOTLAND.

This author describes in the *Edinburgh Medical Journal*, 1880, what he calls "*Inward Fits of Children.*" The disease is common in infants within a few months after birth. The child lies as if asleep, but the eyelids are partially open, aud have a twinkling motion, the

eyes are turned up so as to show the white, the muscles of the face and lips have a tremulous motion, producing an effect as though the child were smiling. As the disease increases the breathing is occasionally interrupted, the features become pinched and a livid circle forms around the eyes and mouth. There is restlessness and starting during sleep, and the child is disturbed by the slightest noise, and sighs and brings up wind, after which it lapses into a drowsy state. In simple and mild cases the disease disappears as the child's strength improves, but if it is improperly treated the drowsy state increases, and a sort of thrush appears, accompanied by feverishness, sour vomiting, watery stools, gripes, which may terminate in regular convulsions. It is clear that the symptoms just described are the result of something irritating the bowels, hence a dose of magnesia will usually be sufficient to remove it. Should this not suffice, it may be necessary to attend to the state of health of the nurse, and to give the child the benefit of change of air.

This same author tells us (*Edinburgh Medical Journal*, 1879,) that the first object in the treatment of convulsions is to allay the spasm and to restore consciousness. This is generally effected by means of a hot bath, and at the same time applying some pungent substance to the nose, such as ammonia. Should these not be effectual in restoring sensibility and overcoming the convulsions, we must have recourse to the application of chloroform. Having overcome the convulsions, we should then endeavor to remove the cause, which is most commonly something irritating the alimentary canal. If the child has recently taken a full meal, an emetic ought to be given as soon as the patient is able to swallow, and the best kind under the circumstances is a full dose of ipecacuanha, according to the age of the child. If the bowels are constipated, an aperient should be given, either of calomel or castor oil; but as it is important that the bowels should be moved quickly, an enema or a suppository should be administered without delay. Cold should be frequently applied to the head if there is much heat, while the feet are kept in warm water, or mustard poultices should be applied to the calves of the legs. If there is much excitement in the circulation, leeches may be applied with advantage, although M. North prefers venesection or cupping, as he says that he has never seen a well-marked case of congestion removed by leeches. But the use of the lancet or cupping-glasses is very questionable in young children, from the certainty of producing crying, which inevitably increases the congestion.

Some authors have advised the use of opium and blisters, but such remedies are extremely hazardous in very young children. If the child is teething, and the gums seem red and swollen, they ought to be scarified. If there is reason to suspect that worms are the cause, turpentine should be given in milk, or it may be given in the form of an enema.

After the attack is over, the bowels should be kept regular by mild aperients, and the most useful are moderate doses of rhubarb and potash, which, besides regulating the bowels, will act as a diuretic. Change of air and the use of small doses of chalybeates, along with light and nourishing food, will be very beneficial.

PROFESSOR DUJARDIN-BEAUMETZ, OF PARIS,

Thus concludes a lecture in the *N. Y. Medical Journal*, 1883: In eclamptic convulsions, or in those which have for their point of departure reflex action, the best mode of treatment consists in the internal administration of bromide of potassium, or chloral, or in inhalations of chloroform or ether. All medicaments which anæmiate the brain seem to do good in these cases; it is from this consideration that TROUSSEAU proposed compression of the carotids. He warns us to be chary in the use of revulsives—such as sinapisms and blisters—in these cases; for severe cutaneous gangrenes, more difficult to cure than the convulsions themselves, have more than once been produced by the prolonged action of even a mustard cataplasm, and this in consequence of the insensibility which results from the fit.

DR. MEIGS AND PEPPER, OF PHILADELPHIA.

There are some general rules to be followed in the treatment of convulsions, which apply to all cases. They are, to place the child in a large *well-ventilated* room, if such can be procured; if it has been seized in a little close room, where the atmosphere is dense and impure, removal to another room, or exposure to fresh air before an open window, has sometimes sufficed to terminate the crisis. At the same time, the clothes should be loosened, in order to prevent all constriction, and, if necessary, taken off, to allow of a careful examination of the whole body. It is always a good rule, no matter what the cause of the convulsion, to place the child in a warm bath (96° or 97° Fah.). If the convulsion occur in a strong and vigorous subject; if it be violent and be accompanied by a deep red or livid flush of the face, and dis-

tension of the viens of the head and neck; if it lasts more than a few minutes or is repeated after intervals of rest, *blood-letting* is to be resorted to. When the convulsion is prolonged or a tendency to its recurrence is manifest, our authors believe that the use of an *emetic* is very desirable, even though no gastric irritation exists, and for this purpose, they prefer ipecacuanha. *Cold applications* to the head are useful, when the convulsion is of any considerable violence, but they would be improper when the surface is pale, the features contracted, and the pulse small and feeble. If the child has been constipated prior to the attack, a purgative should be given; and, in healthy children, calomel is the best; the dose being from two to four grains, according to age. It should be followed in one or two hours by a dose of castor oil or rhubarb. In most cases *purgative enemata* will prove of service. They may consist of water, holding in solution castile soap, common salt, molasses, castor-oil, sweet-oil, or spirit of turpentine. If the first fails to operate in ten or fifteen minutes, another or even a third ought to be given. Mustard sinapisms (shifted from place to place) are very efficacious. They should always be covered with gauze or fine muslin, to avoid the danger of leaving any of the mustard upon the skin when they are taken off, for our authors once saw very bad ulcerations upon the feet of a child from neglect of this precaution. *Anti-spasmodics*, especially the bromides of potassium and sodium, may be used as a means of prevention, in children threatened with convulsions. When there are no evidences of determination of blood to the brain, or when it has been removed by blood-letting and revulsives, *opium* proves useful in allaying irritability and restlessness. Somnolence and coma contra-indicate the use of opium. Our authors prefer *sulphuric ether* to chloroform, for the production and maintainance of anæsthesia in convulsions.

THOMAS HILLIER, M. D., LONDON.

This author considers that in the various forms of infantile convulsions it is of little use to do anything during the attack. The child should not be held, but laid upon a mattress, its clothing loosened, and plenty of fresh air admitted. A tepid bath is popular and will do no harm. When the attacks are frequent and severe, they may be warded off by chloroform inhalations. This is, however, a dangerous means, and should only be used by the physician himself. It is a real benefit only when the attack is impending.

To prevent a recurrence, the diet should be carefully regulated, the gums lanced if swollen or tender, laxatives exhibited if the bowels are costive, anthelmintics if there are worms, etc. The main indication is *to nourish the child* in the best manner possible. *Bromide of potassium* in full doses, iron and tonics, are the medicines chiefly demanded.

DR. T. K. HOLMES, ONTARIO,

In a paper in the *Transactions of the International Medical Congress for* 1876, advocated the treatment of convulsions in children accompanied by high temperature of the body, by means of the *cold bath*. He puts the child at first into a tepid bath and then rapidly cools it to 50° Fah. He never resorts to the bath when the temperature of the child is below 100°, and always removes it from the water when the axillary temperature has fallen to near the standard of health. Of course, where other indications for treatment exist, as malaria, teething, irritating ingesta, etc., it is necessary to attend to these also.

DR. BLANCHEZ, PARIS.

This writer recommends that when the attacks run into each other, or recur at short intervals, revulsives should be applied to the lower extremities, compresses of cold water, or of water with ether, being also laid on the temples. *Compression* may at the same time be made on the carotid arteries, as recommended by TROUSSEAU. The pulsation of these vessels must be sought for at the lateral parts of the neck, and then they must be gradually compressed backward toward the spinal column. The amelioration should be rapid; and if after two or three minutes it has not manifested itself in an evident manner, the compression should not be longer continued. Inhalations of *chloroform* may then be resorted to, administering them in a very gentle and gradual manner. In some cases special indications present themselves, as for the employment of an emetic when it is well made out that the convulsions are due to indigestion. When the attack has been overcome, we must try to modify the general eclampsic condition by having recourse to anti-spasmodics. Their dose is of great importance. For an infant from eight to fifteen months old, we should never exceed the dose of gr. iv, after having commenced with gr. j. The maximum dose of *belladonna* powder is gr. iss, after commencing with gr. $\frac{1}{8}$, increasing it very gradually, and carefully watching the throat and pupils of the child. We may proceed more boldly with *oxide of zinc*, of which gr. iss may

be given every two hours ; but *bromide of potassium* and *chloral* are to be preferred to any of these remedies. Of the bromide gr. j–iij may be given every two hours, until gr. viij–x are reached in an infant, and from gr. xl–l in a child of seven.

PROFESSOR JOHANN STEINER, M. D., PRAGUE.

It is not always easy to detect the cause of infantile convulsions. In such cases the causal treatment must give place to the symptomatic. Of the various remedies, our author prefers in such instances the following combination:

59. ℞. Zinci oxidi, gr. iv
Hydrargyri chloridi mitis, gr. ij
Sacchari albi, ʒj. M.
Make eight powders. Give one every hour.

Remove all constricting clothing, apply mustard poultices to the trunk and extremities, and use clysters of cold water. The warm bath is often serviceable.

Convulsions from malarial toxæmia demand *quinine;* from worms, anthelmintics: from phimosis or elongated uvula, excision, etc.

NOTES ON REMEDIES.

Amyl Nitrite, Dr. BRIDGER (*Lancet*, 1882) says that he has obtained good results from the use of nitrite of amyl in the following cases : 1. Convulsions resulting from an abscess in the tympanum. 2. From tubercular meningitis. 3. From dentition. One-third of a minim in mucilage was applied to the child's nostrils every three hours.

Anæsthetics. Either chloroform or ether, by inhalation, are effective in emergencies.

Belladonna is valuable in the constitutional treatment.

Chloral, in doses of gr. v–x, every six hours, to a child of ten, frequently answers the purpose. Dr. POLAILLON has administered it with success to children as an enema (three grains in five drachms of water.) Calm sleep and a cessation of the convulsions follow, and a similar enema given twenty-four hours later completes the cure.

Moschus. When musk can be obtained fresh and pure, it is an admirable anti-convulsive agent in children. When the child will not swallow, Dr. JULES SIMON recommends it in the following enema:

60. ℞. Moschi, gr. iij
Camphoræ, gr. xv
Chloral hydratis, gr. vij
Vitelli ovi, j
Aquæ, ʒ v. M.
For an enema; to be preceded by an ordinary one, to wash out the rectum.

Opium, in some form, is preferred by many practitioners. It may be administered hypodermically, or by enema, every twenty minutes, until the pupils contract.

Potassii Bromidum, gr. x–℥j, is usually a reliable means in idiopathic convulsive disorders. Dr. BLANCHEZ (*Gazette Médicale*, 1875,) recommends a mixed treatment, the bromide being given during the day and the chloral at night.

Zinci Oxidum, especially when combined with tonics, aids much in restoring the nervous equilibrium.

EXTERNAL REMEDIES.

Warm Baths, in infants, often act as potent sedatives. *Cold to the head*, as compresses wrung out with ice water or dilute ether, is valuable. TROUSSEAU commends pressure on the carotid arteries. (See above.) Of course all reflex irritation should be sought for in the first instance, and removed.

CORYZA.

DRS. MEIGS AND PEPPER, OF PHILADELPHIA.

Simple coryza requires no treatment in children over two years of age, except attention to hygienic conditions. In young infants, even the mildest coryza gives trouble, by obstructing the full freedom of the respiratory act, by interfering with the suckling, and by the restless and broken sleep which it induces. In such cases, all the treatment required is to keep the child warm, and to clear the nasal passages, and at the same time lubricate them by the occasional introduction of a camel's hair pencil, charged with diluted glycerine, cosmoline, or sweet oil. When the coryza is more severe, quinia even in young infants will prove useful; the dose should be half a grain, twice or thrice daily for a child under a year old, and double that amount for a child of two or three years.

In purulent, or pseudo-membranous coryza, the indications of treatment are to remove the secretions as they collect and to subdue the inflammation of the mucous membrane by which they are produced. The first indication may be fulfilled by means of a brush made of long camel's hair, by throwing water or lime-water from a small syringe into the nasal passages, or when the discharges are thin and fluid, by blowing strongly into the nostrils, whilst the tongue is depressed by a finger introduced into the mouth, so as to allow the secretion to pass

out of the posterior nares into the fauces. The second indication is to be fulfilled chiefly by the application of solutions of alum, nitrate of silver, sulphate of zinc or copper, and by insufflations of different substances in powder. The best application is probably the solution of nitrate of silver, which may be made of the strength of five or ten grains to the ounce, or stronger, to be made use of several times a day, with a brush. In chronic coryza the treatment must be *general* and *local*. The *general* treatment will consist in care as to the clothing, suitable diet and the administration of alteratives and tonics. Our authors prefer the syrup of the iodide of iron, from three to five drops, at four or five years of age, three times a day, in half to one teaspoonful of syrup of sarsaparilla. When the appetite is poor and the digestive process seems slow and feeble, one grain of *quinine*, three times a day should also be given. When the attack is particularly obstinate, and when, also, it occurs in a subject who either inherits or exhibits signs of the tuberculous or scrofulous diathesis, the best remedy is *cod-liver oil*, which should be given in doses of from half a teaspoonful to a teaspoonful two hours after each meal. In cases of a syphilitic nature, we should give the *iodide of potassium*, associated, in obstinate cases, with minute doses of *bichloride of mercury*. The *local treatment* must consist in the use of means intended to keep the passage clean and free from scabs and incrustations, and in the employment of astringent and alterative applications. When the patient will submit, the nasal passages should be cleansed by means of a syringe once or twice a day, with tepid water or milk and water, or with a weak solution of alum in water (two to four grains to the ounce). If the discharges are offensive, we may use chlorinated soda, one, two, or three drachms in two ounces of water. The surfaces should be frequently lubricated with glycerine and cold cream (℥j of the former to ℥j of the latter). Amongst the astringent applications, the best are weak solutions (gr. ij to v, to water f.℥j) of the nitrate of silver, which should be used only once a day, or solutions of the sulphate or acetate of zinc with wine of opium. From two to five grains of either preparation, with a drachm of wine of opium, to an ounce of water, make a proper application. This may be applied twice a day.

After the use of the alum injection during the day (see above) Drs. Meigs and Pepper strongly urge the application of the following ointment at night:

61. ℞. Unguent. hydrarg. nitrat., ℥ss
Ext. belladonnæ, gr. x
Axungiæ, ℥ss. M.

It should be applied, after being completely softened by a gentle heat, on a camel's hair pencil, care being taken to apply it thoroughly to the mucous membrane itself, and not merely to the outside of the hardened scabs.

EDWARD ELLIS, M. D., LONDON.

For ordinary cold-catching and snuffles in children, this writer has found no treatment, at the outset, so useful as small doses of *spirits of camphor*, frequently repeated, say every half hour or hour. If the cold be more advanced, and what is called "feverish," with hot skin and frequent sneezing, *tincture of aconite*, gtt. ½, in water every half hour, will speedily cause diaphoresis and a general feeling of relief. The lassitude left after a cold, or a cold showing a tendency to become chronic, is best met by *tinctura nucis vomicæ*, gtt. ij–v, to a child according to age, three times a day, in a little water. He has frequently and thoroughly tested these plans of treatment, and can recommend them with confidence.

PROF. J. LEWIS, M. D., NEW YORK.

In children, ordinary attacks of this affection require little treatment beyond keeping the bowels open; soaking the feet in mustard water, and having the body warmly clothed. Friction with camphorated oil, over the nose, is of some benefit. In attacks which commence with greater severity, an emetic of syrup of ipecacuanha, given early, will moderate the inflammation, and may prevent the occurrence of bronchitis. Afterward, a simple diaphoretic mixture should be administered, such as the following:

62. ℞. Syrupi ipecacuanhæ, f. ℥ ij
Spiritûs ætheris nitrosi, f. ℥j
Syrupi simplicis, f. ℥ ij. M.
One teaspooonful every three hours, to a child of six months.

In place of sweet spirits of nitre, *acetate of potash* may be employed, in the dose of 1 to 2 grains, for infants. If there is febrile re-action, from ½ minim to 2 minims, according to the age, of *tincture of digitalis*, may be given in each dose.

In pseudo-membranous coryza, the laryngitis which usually accom-

panies this affection, demands the first attention. The injection of a solution of chlorate of potash, in water, several times a day, subdues the inflammation and removes the collection of mucus and pus. Or, the following may be employed:

63. ℞.	Pulveris aluminis,	gr. xvj–xx	
	Aquæ,	f. ℥iv.	M.

This bromide solution (see Index), diluted as directed, will also be found useful when injected into the nostrils.

Chronic coryza should be treated by tonics and by alteratives, directed to the cachexia which may be present. Together with such constitutional treatment, a solution of nitrate of silver (gr. iij–v to f.℥j) may be injected into the nostrils. An excellent formula for application to parts which can be reached by a camel's-hair pencil, is:

64. ℞.	Pulveris zinci oxidi,	℥j	
	Glycerinæ,	f. ℥j.	M.

To be applied three or four times a day.

65. ℞.	Liquoris ammoniæ acetatis,	f. ʒj	
	Vini ipecacuanhæ,	♏xvj	
	Potassii nitratis,	gr. viij	
	Misturæ amygdalæ,	f. ʒ vij.	M.

A teaspoonful every four hours, for a child of six months.

CROUP.

DR. EDWARD HENOCH, OF BERLIN.

This author considers that if local bleeding, emetics, tartar emetic, the energetic use of mercurials and the application of a blister to the region of the larynx, do not produce rapid improvement, nothing can be expected from medicinal remedies. He warns us against the frequent repetition of emetics in an already exhausted child, because without producing any good effects, it increases the inanition to an extreme degree, and may lead to serve cerebral symptoms. He also recommends that the children be not constantly kept in bed, but frequently carried around in the arms, as this produces temporary relief. Broth, milk or wine should be frequently, but cautiously given, in order to maintain the child's strength. The occurrence of the first threatening attack of suffocation or even the forcible action of all the accessory muscles of in-

spiration, is, for him, the signal for tracheotomy. Too long delay only increases the exhaustion, the danger of carbonic acid poisoning and the development of broncho-pneumonia. His experience tells him that the chances for the success of tracheotomy are more favorable in simple primary than in diphtheritic croup. Even the presence of bronchitis or pneumonia does not constitute a contra-indication for tracheotomy, as he has seen several such cases recover. It is well to continue mercurial treatment to a moderate extent afterwards, and, by the inhalation of warm vapor of water through the canula to facilitate the exfoliation of any pseudo-membrane which may still be present on the mucous membrane.

DR. ARMAND SEMPLE, OF LONDON,

Speaking of *Spasmodic Croup* (Laryngismus Stridulus; Thymic Asthma) this author says that it is caused by morbid influences acting at a distance from the larynx, such as the irritation of teething, or the presence of tumors pressing upon the recurrent laryngeal nerve; worms in the intestines, and unwholesome or unsuitable food, are common causes. It is probably, he thinks, in many cases hereditary, and is often observed in nervous, tubercular and rickety children.

The treatment consists, during the paroxysm, in lancing the gums and the use of the warm bath. The treatment afterwards should consist in the removal of worms, if they exist; the use of mild aperients or ant-acids, or weaning the child, since, in some cases, the milk of the mother disagrees. In many cases, however, the disease arises from the removal of the infant from the mother's breast, and, in this case a wet-nurse is the best substitute.

DR. WILLIAM PEPPER, OF PHILADELPHIA.

This author is a great advocate of the use of bichloride of mercury (*New York Medical Journal*, 1884). He uses it in large doses with the following rules to guide him. If the false membrane is increasing, he increases the drug; if it is stationary, he maintains the same dose; if it is decreasing, he diminishes the remedy; and if the membrane has disappeared, he at once stops the bichloride.

He has found it convenient to have two standard formulas, according as he wishes to combine iron with the mercury or not. He generally writes for a three-ounce mixture, with half a grain of the bichloride, so that each teaspoonful contains about one-fortieth of a grain. The following are his prescription models:

FORMULA I.

66. ℞. Hydrargyr. bichlor., gr. ss
Tinct. ferri chlor., f. ʒiij
Glycerin., f. ʒss
Aquæ, q. s. ad f. ʒiij. M.
Sig. f. ʒj. as directed, in water.

FORMULA II.

67. ℞. Hydrargyr. bichlor., gr. ss
Vin. pepsin.,
Elixir bismuthi, āā ʒiss. M.
Sig. f. ʒj, as directed, in water.

The second formula is the pleasantest way of prescribing the remedy, and it is the one used by Dr. PEPPER.

Practically, he now generally begins with the second formula, and, when convalescence has commenced, resorts to No. 1 to get the benefit of the iron.

He does not attempt to explain the action of the bichloride ; but bases his claim that it will give better results than other treatment known at present, entirely on clinical evidence. An important point is that the drug should be well diluted, whereby its irritating properties are avoided.

DR. O. T. SCHULTZ.

This author very highly praises the method recommended by Dr. Reiter, of Pittsburgh, which consists in the administration of large doses of calomel. He uses it in enormous doses, having given to his own child, after the failure of all other remedies and when death seemed imminent, as much as eighty-five grains in twenty-four hours. Under these large doses the membrane already formed was vomited up and the further formation was checked. The child fell asleep, the respiration became natural and the bowels were freely moved. He records his experience in *The American Practitioner*, for May, 1884.

DR. J. P. KLINGINSMITH, OF PENNSYLVANIA.

This physician also highly praises the *calomel* treatment of croup and diphtheria, in the *Medical Record*, 1884. The mercurial used was the English calomel, and was given by filling a teaspoon half full of cold water, then dropping the medicine upon it, after which it was placed well back in the mouth of the patient. The calomel purges, but not to excess, causing simply free and copious evacuations of a greenish appearance. He has never known ptyalism to occur in a

single case. His experience with this plan of treatment is based upon three cases of his own, besides a number occurring in the practice of other physicians. He believes that with a faithful and proper administration of the remedy in question, disintegration and separation of the membranes will be facilitated, as well as relief afforded to allay the spasmodic character of the disease.

M. JULES SIMON, OF PARIS.

This distinguished teacher, who has had great experience in the Hôpital des Enfants Malades, treats croup as follows: (*Medical Press*, 1883.) As soon as the malady is diagnosed, he touches the throat with lemon juice or a solution of muriate of iron every two hours. Every three hours he washes the part affected with a solution of borax (two drachms to the ten ounces). The atmosphere of the room is charged with atomized phenic solution, a stimulant nourishment is given, and three to five drops of tincture of iron administered every three hours. When dyspnœa becomes apparent, an emetic is given, but if the symptoms are not relieved, tracheotomy must be performed without delay. The after-treatment consists in placing a piece of tarlatan over the canula, warming the room and administering beef tea and tincture of iron. The removing and cleansing of the canula should be done by an experienced person; it might be definitely removed after the eighth or tenth day. M. Simon considers that chlorate of potash is of little use in croup.

DR. CHARLES J. FAHIE, OF ENGLAND.

This writer states, in the *British Medical Journal*, 1883, that out of ten cases of croup treated as follows, he did not lose one. He provides that the case must be seen early. A hot bath, a hot poultice of burnt salt to the throat externally, a mustard emetic, and a dose (to be regulated according to the age of the child) of the following mixture every two hours: tartar emetic, liquor ammoniæ acetatis and mistura citratis potassæ. The citrate of potash mixture can be made by saturating bicarbonate of potash with citric acid.

DR. WILLIAM L. MARTIN, OF NEW JERSEY.

This author (*Medical and Surgical Reporter*, 1883,) says that since adopting the lime inhalation treatment his success has been almost uniform. But the lime inhalations will only answer where the deposit

is that of true croup. He is satisfied from numerous trials that it has no effect in the croupous form of diphtheria or diphtheritic croup. When seen early, he places much reliance upon small and repeated doses of calomel, but the cases must be seen early.

DR. E. R. DUVAL, OF ARKANSAS.

This author (*Transactions of the Medical Society of the State of Arkansas*, 1882) states that for twelve years, after the manner of Dr. FORDYCE BARKER, of New York, he has been using the turpeth mineral in the treatment of this disease, and he has, since the adoption of this plan, lost no case of croup.

His treatment has been, immediately upon being called to a case, without stopping to interrogate very closely as to whether he had a croup reflex, catarrhal, or true croup, to administer at once a dose of the agent (from two to five grains, according to age) in honey, syrup, or sugar of milk, and if there is no decided emesis within fifteen minutes, to repeat the dose; and he has never known it to fail to produce vomiting at the second dose; almost immediately a satisfactory response is secured by the first administration. The vomiting is usually free, without effort and without depression. The powder is tasteless, small in bulk, prompt in action, and thorough in effect.

The virtues claimed for it are sedative and revulsive. "It depletes the mucous membrane by an abundant secretion of mucus, which is thrown up; it removes from the larynx, by the forced expiration which it causes, any albuminous or fibrinous exudation which may be there in a diffluent state, and which by remaining may become, subsequently, pseudo-membrane; it acts as a powerful revulsive, and thus diminishes the capillary circulation in the trachea and larynx; and thus it becomes a most effective agent in arresting the inflammatory forces."

If the croup persists after removing the causes of reflex action, then, of course, other therapeutic agencies will need to be essayed; but throughout the attack, be it short or long, whenever the breathing becomes suffocative, from the accumulation of mucus in trachea or larynx, he gives the turpeth mineral in the manner and according to the con ditions and plan above designated.

CATHETERISM OF THE TRACHEA.

Since it is not always possible to secure the consent of the parents to perform tracheotomy, it will be well to bear in mind that a corres-

pondent of the *British Medical Journal*, when placed in such a position, where tracheotomy seemed imperatively demanded, yet where consent was refused, resorted to the following procedure: He introduced a large (No. 12) gum-elastic catheter into the trachea, with less difficulty than he had anticipated—having first gagged the child's mouth with a cork. After a severe paroxysm, the patient succeeded in getting a good breath, and the next expiration was followed by the ejection of muco-purulent *debris* and sticky phlegm through the tube. In about ten minutes these convulsive efforts ceased—the child, in the meantime, getting a good amount of air into her lungs. In half an hour her face was flushed, but had lost its lividity and the breathing was fairly comfortable. The tube was retained by tape tied around the child's neck, and was removed twenty-four hours after its insertion, when the temperature had fallen to 100° F., and the pulse from 150 to 100. Five days later she had entirely recovered.

DR. W. MACEWEN, OF GLASGOW.

Before the International Medical Congress (1881) this author related several cases in which he had introduced flexible tubes into the trachea through the mouth, and gave one case of membranous croup in which their use had been attended with marked success. Dr. ROBERTSON, also of Glasgow, confirmed Dr. MACEWEN'S statements, and said that the patients' voices were unaffected, even in the case of the patient in whom the tube was retained for thirty-six hours. The respiratory murmur seemed quite full and free at the base of the lungs, showing that air was freely admitted. There was no difficulty in swallowing.

M. THIBON, OF BELGIUM.

In the *Lancette Belge* this author becomes quite enthusiastic over the therapeutic effects of sulphate of copper. He considers it to be not only a very efficient emetic, but also a powerful parasiticide, and therefore of especial value in croup, first causing the expulsion of the false membranes and then preventing their reproduction, through its destructive action on the vegetable organisms. Practically, he asserts that this medicament has given him very satisfactory results in very desperate cases; it should be given in sufficient doses. Children of two years of age have taken over fifteen grains in twenty-four hours without any toxic effects. He employs the following potion:

68. ℞. Cupri sulph., gr. viij
Aquæ, ℥ij. M.

A teaspoonful should be given every ten minutes, until vomiting is induced; afterwards the same dose may be repeated every hour, and later every second hour.

DR. A. JACOBI, OF NEW YORK.

Dr. A. Jacobi reaches the following conclusions in relation to this subject, (*Medical Record*, 1884):

1. The mercurial treatment of pseudo-membranous affections of the respiratory organs is promising of great results.

2. The corrosive sublimate is the preparation best adapted for internal medication.

3. The system must be brought under its influence speedily, by frequent doses.

4. It must be given in dilutions of 1 to at least 3000 to 5000.

5. Babies of tender age bear one-half grain and more a day, and many days in succession.

6. Salivation and stomatitis are rarely observed, and appear to heal kindly. Gastro-intestinal disturbances are not frequent; they are moderate, can be avoided by the administration of mucilaginous and farinaceous food, or of mild doses of opium.

7. If not well tolerated, the inunction of sufficient and frequent doses of hydrargyrum oleate takes the place of the corrosive chloride, either together, or alternately with the internal administration.

8. The treatment of croup may be preventive to a great extent. Most of the cases are complicated with, or descend from, diphtheria of the fauces. Here the preventive treatment of croup must begin. Without desiring to encourage mere local treatment, which, in unwilling patients, has to resort to force or violence, and thereby does great harm, he points to the peculiar local effect of mercury on the pharynx, both in the healthy and sick, as a means to influence the threatened invasion of the larynx.

DR. W. H. DAY, OF ENGLAND.

This authority on diseases of children, as the result of long experience, lays down the following rules:

The temperature of the room should not be lower than 65°.

1. The vapor bath is indispensable in the treatment of croup, and should be used at the commencement in every case, and continued unremittingly until all fear of a relapse has departed.

2. All cases of croup are invariably relieved by the vapor bath, especially if the tracheal membrane is dry; when it is moist there might be fear of causing too much depression.

3. The earlier that a case comes under treatment, the greater the probability of a successful termination, because it is then possible to prevent the tracheal secretion becoming organized.

4. The most trying difficulty we have to contend with in the management of croup in the catarrhal form is a relapse, because with it comes exhaustion; and the weaker the patient the less will be the chance of recovery.

5. Tartarized antimony is our sheet-anchor as a medicinal agent; not so much from any specific effect it exerts on the tracheal membrane, as from its certainty in effecting free and speedy vomiting.

6. Tartarized antimony should, however, be mainly given for the purpose of producing vomiting; that failing, it is comparatively useless, because, if continued in small doses at intervals, its depressing effect is too great.

7. When the emetic has fully operated, if there be much febrile excitement and disordered primæ viæ, which aggravates the laryngeal symptoms, a grain of calomel every four hours, or one full dose for the purpose of emptying the bowels and controlling the fever, will be found necessary. In the fibrinous form, when there is violent and acute inflammation, with a firm, hard pulse, and a full reserve of strength, two or three leeches may be applied over the thyroid cartilage, and bleeding can easily be arrested by pressure with the finger, and if need be, with cotton wool; then mercury may prove a valuable addition to the antimonial treatment. Some cases improve from the moment the mercury affects the bowels, the fever diminishing, and the expectoration of the false membrane being promoted. When employed in small doses at regular intervals it would appear to diminish the cohesive attachment to the mucous membrane, and to render the lymph less fibrinous and more readily absorbed.

8. When in a case of croup, seen at an early stage, and satisfactorily progressing, forty-eight hours have elapsed, we may generally augur a favorable termination; and we should then begin, if not before, to sup-

port our patients with good beef-tea, milk and arrowroot, and (it may be) a little wine and water.

If after vomiting the temperature remains high, and especially when the bowels have acted freely, minim doses of aconite every two or three hours are of great service in inflammatory croup. This keeps up a gentle diaphoretic action on the skin, diminishes tension of the pulse, and controls vascular excitement in a very striking manner. At this stage it comes in well, because antimony should not be long continued in any of the diseases of children, and it certainly ought not to be in this disorder.

H. V. SWERINGEN, A. M., M. D., FORT WAYNE, IND.

As a general rule, croup, laryngismus stridulus, attacks the child suddenly, in the night, and requires but an emetic to effect its almost equally sudden disappearance or removal. But we occasionally meet with cases which prove decidedly exceptional to this general rule, and which create in our minds the fear that they belong to the true or pseudo-membranous variety of the disease. For these cases the following prescription is admirably adapted:

69. ℞. Potass. bicarb, ʒij
Potass. iodid, grs. xvj
Tr. card, co,
Syr. simp, āā f.ʒij
Aquæ destil, q. s. ad f.ʒij.
M ft. sol

Sig. A teaspoonful in water every hour until three or four doses are taken, then every three or four hours.

DR. SCARFF, OF MARYLAND.

This author (*Medical and Surgical Reporter*, 1880,) gives an emetic dose of turpeth mineral, repeated in ten or fifteen minutes, if necessary. He follows this with tincture of aconite root or tincture veratrum viride, given every hour, watching the effect. Hot sponges are applied. If the disease extends, he gives stimulating expectorants and in the latter stages, quinine and carbonate of ammonia, in large and frequent doses. He never uses calomel. During convalescence, he gives chlorate of potassium and quinine, with liquid nourishment from the beginning. The room should be moderately warm and not too much clothing allowed. Out of thirteen cases of true croup treated on this plan, he lost only two.

DR. W. C. CHAPMAN, OF OHIO.

Having produced free emesis, (*Toledo Medical and Surgical Journal*, 1879,) this physician commences the administration of tincture of veratrum viride, preferably Norwood's. The manner of its employment should be carefully considered, as success depends more especially on close observation of its physiological manifestations. Invariably, in a case of true croup, the pulse is high, from 120 to 140, irritable and quick. Veratrum viride, will, if given properly, reduce the number of the pulsations and decrease the vascular tonus. It should be given in small doses, repeated at short intervals. He begins with two drops every hour and keeps on until the effect is noticed in the pulse. This is the important point in the treatment. Push the remedy until the pulse reaches 60, and keep it there. If there is any bronchial complication, as there often is, it is well to order syrup of senega, combined with paregoric and either the carbonate or muriate of ammonia. Quinine, one grain every four hours, should be given, commencing its administration immediately after the full effect of the veratrum is obtained.

TRACHEOTOMY IN CROUP.

See *Tracheotomy in Diphtheria*, page 176.

DR. R. W. HUTCHINSON, OF NEW YORK.

This author thinks (*Med. and Surg. Reporter*, 1884,) that for the present, we must rely more on local remedies, applied by means of one of the various apparatus in use to atomize liquids. This must be resorted to almost uninterruptedly day and night until the symptoms show a disposition to yield, and then less frequently. The room in which the patient lives should, morever, be kept saturated with steam. He generally advises an open vessel to be kept boiling with lime-water. He thinks this gives more relief than the simple steam; so that it is possible that the lime has a dissolving action on the membrane.

DR. C. R. ILLINGWORTH, OF ENGLAND.

This practitioner (*British Medical Journal*, 1884) has had very satisfactory results from the internal use of strong astringent remedies, and powerful counter-irritants, in the shape of blisters externally. He applies the blisters under each angle of the lower jaw, and gives minim doses of the perchloride of iron, grain doses of the sulphate of alumina

and two minim doses of the tincture of belladonna every two hours, sweetening the mixture with glycerine.

PROF. FORDYCE BARKER, M. D., NEW YORK CITY.

This teacher always commences treatment by the following emetic of *turpeth mineral:*

70. ℞. Hydrargyri sulphatis flavæ, gr. iij–v.
For one dose. If it does not act in fifteen minutes, give a second dose of three to five grains, according to the age of the child. This, however, is rarely necessary.

If, on the next visit, he finds the child with a quick pulse, hot skin, somewhat hurried breathing, and an occasional ringing cough, but with no thoracic râles, he directs that it shall be kept quiet in bed, comfortably covered, but not with too many clothes, and prescribes the *veratrum viride*, in one or two-drop doses, according to the age of the child, as, for example, in the following formula:

71. ℞. Tincturæ veratri viridis, gtt. xvj–xxx
Spiritûs ætheris nitrosi, f.℥ij
Syrupi simplicis, f.℥j
Aquæ, f.℥vj. M.
A tablespoonful every second hour.

He visits the child at least as often as every eighth hour, and increases or diminishes the dose, according to the effect of the medicine on the pulse. He is not satisfied until the pulse is below eighty per minute, and then continues the veratrum in half the dose that was necessary to bring it down to that point. If thoracic râles, hurried and labored respiration, and other symptoms indicate that the disease is extending downward, then substitute for the above prescription something like the following formula, of course varied according to the special indications of the case:

72. ℞. Tincturæ veratri viridis, gtt. xvj–xxx
Ammoniæ carbonatis, ℥ss
Syrupi tolutani,
Syrupi acaciæ, āā f.℥j. M.
A teaspoonful every second hour.

Sometimes, on account of increasing laryngeal and bronchial obstruction, the emetic of turpeth mineral should be repeated on the second or third day, but it is not necessary or well to repeat it a third time.

Quinine is a remedy of great value, and well tolerated in large doses in some of the diseases of the respiratory organs of children. It is of great service in some cases of croup in the advanced stages, when the respiration is hurried and irregular, and paroxysms of cough becoming less marked, the intermissions less distinct, and the cough husky instead of ringing. Our author then substitutes for the last formula the following:

73. ℞. Quiniæ sulphatis,
Ammoniæ carbonatis, āā ʒss
Syrupi senegæ,
Syrupi acaciæ, āā f. ℥j. M.
To be well shaken. A teaspoonful every fourth hour.

When the croup is complicated with lobular pneumonia, give the quinine separately, 4 or 5 grains three times a day, while the little patient takes the last of the prescriptions containing veratrum viride.

HERMAN BEIGEL, M. D., ETC., LONDON.

Dr. B. recommends in a case of croup the use of the following medicated sprays, given in the order of their value. They are applied by means of the atomizer:

74. ℞. Aquæ calcis, f. ℥j. M.
For one inhalation, lasting about a quarter of an hour, and to be repeated every two hours as long as bad symptoms are present.

A convenient method is to pour hot water on unslaked lime in a pitcher, and to have the patient inhale the vapor as it arises.

75. ℞. Acidi tannici, gr. ij–xx
Aquæ, f. ℥j. M.
For one inhalation, to last fifteen or twenty minutes.

76. ℞. Potassii bromidi, gr. v–x
Aquæ, f. ℥j. M.

This inhalation, at the early stage of the disease, will often be found to arrest the symptoms.

With these inhalations the administration of emetics or other remedies may be combined.

DR. FELIX VON NIEMEYER, PROFESSOR UNIVERSITY OF TUBINGEN.

77. ℞. Cupri sulphatis, gr. x–xv
Aquæ, f. ℥ij. M.
A large teaspoonful to be taken every five minutes until vomiting sets in.

In regard to the employment of emetics in croup, Prof. N. thinks that they are only indicated when obstructing croup-membranes play a part in producing the dyspnœa, and when the child's efforts at coughing are insufficient to expel them. Impeded expiration is an indication for their employment.

Sulphate of copper is preferable to tartar-emetic or ipecacuanha. It should be given in full doses; in small ones it is uncertain, and more apt to operate as a poison.

If the bowels be confined, administer a clyster, so that the diaphragm may have room to act. The best is a cold one, as follows:

78. ℞. Acidi acetici diluti, f. ℥ij
Aquæ. f. ℥vj. M.

If, however, there is no remission, notwithstanding the employment of the emetic and the cold application, apply the following concentrated solution, at intervals of several hours, to the entrance of the glottis:

79. ℞. Argenti nitratis, ℥ss
Aquæ destillatæ, f. ℥ij. M.

Dip a curved rod of whalebone, with a small sponge made fast to its lower end, into this solution, press down the tongue of the child, and endeavor to reach the entrance of the glottis with the sponge. There the sponge is immediately compressed by the muscular contraction which takes place, whereby certainly a portion of the liquid, if only a small one, arrives at the larynx. Administer also half a grain of calomel every two hours.

Should this treatment remain without effect, proceed at once to tracheotomy.

Besides treating the dyspnœa upon the principles given above, it may be necessary to relieve the paralytic symptoms due to blood-poisoning by carbonic acid. For this purpose the powerful stimulus obtained by pouring *cold water* upon the child while in a warm bath is of great service. Lose no time in making use of it, the moment the child begins to grow drowsy, the skin to cool, the sensorium to be benumbed, or as soon as emetics fail to act. A few gallons of cold water, poured from a moderate height, over the head, nape and back of the child, almost always cause it to revive for a while and to cough vigorously. Thus, sometimes, after the bath, masses of exudation are expelled. Other stimulants, such as camphor or musk, are much less effective, and ought not to be employed, save when insuperable objections are opposed to the cold affusion. They should be given in large

doses, immediately prior to the emetic. The following formula may be used:

80. ℞. Camphoræ, gr. x
Ætheris acetici, f. ʒiij. M.
Ten to fifteen drops to be given every quarter of an hour.

PROFESSOR J. LEWIS SMITH, M. D., ETC., NEW YORK.

81. ℞. Potassii chloratis, ʒj
Ammonii muriatis, ℈ij
Syrupi simplicis, f. ʒj
Aquæ, f. ʒij. M.
One teaspoonful every twenty minutes to half an hour, or in cases not severe, every two hours. This should be continued regularly, night and day, until the cough becomes looser, or until it is evident, if the case be unfavorable, that it can be of no service.

The atmosphere the child breathes should be constantly loaded with moisture, without, however, that degree of heat which would add materially to the discomfort of the patient or attendants. The temperature should be of 75° or 80°.

Besides the nitrate of silver, three other substances have been used of late years, for the topical treatment of the throat, which appear to be more effectual in removing the pseudo-membrane, and controlling the inflammation. One is *liquor ferri subsulphatis;* the second, *carbolic acid*, and the third, *bromine*. The following formulæ may be used:

82. ℞. Liquoris ferri subsulphatis, f. ʒj
Glycerinæ, f. ʒss. M.

83. ℞. Acidi carbolici fluidi, f. ʒj
Aquæ, f. ʒvj. M.

84. ℞. Brominii, ʒij
Potassii bromidi, gr. xlv
Aquæ, f. ʒj. M.

This is called the bromine solution; but it must be considerably diluted for use. Twenty-four to forty drops should be added to an ounce of water, for application to the fauces or larynx. Our author most highly recommends the sulphate of iron solution.

DR. J. J. HIGGINS, NEW YORK.

The special indications in croup are laid down by this writer (*The Practitioner*, May, 1877,) as follows:

1. The relief of spasm. For this purpose, *emetics* are demanded. The best is *turpeth mineral* (hydrargyri sulphas flava), gr. iij, for children from one to three years of age, repeated once in six or eight hours, if necessary.

2. The relief of congestion and inflammation. To accomplish this, *aconite* is the most efficient remedy, in small, oft-repeated doses, gtt. ½ to a child of four years.

85. ℞. Tinct. radicis aconiti, gtt. vj.
Syrupi ipecacuanhæ,
Spiritûs ætheris nitrici dulcis, āā f. ℥ ij.
Aquæ carui (vel anisi), f. ℥ ij. M.
A teaspoonful for a child of two years.

A sinapism to the upper part of the thorax, aids the remedy.

3. The dissolution and expulsion of the membrane. This may partially be done by emetics; but the real reliance must be on *calomel*, in full doses, gr. x-xx. These large doses are absolutely necessary to check the disease. The administration of mercury in small doses, does not do this; it simply effects an augmentation of the secretions; and, again, neither does the disease last for such a length of time that the constitutional effects of mercury could be got, nor, as a rule, could such effect in the infant be obtained. In larger doses of from 5 to 10 or 20 grains, mercury acts in a totally different way; and, when so given, exerts a powerful influence upon the disease, of a sedative and salutary character. Dr. ELLIOTSON also strongly and earnestly advocates this course, and says, "There is extreme danger here, and, therefore, mercury should be given with the greatest freedom."

NOTES ON REMEDIES,

Acetum. The fumes of vinegar are highly extrolled by Dr. LESDORF. (*Doctor*, Nov., 1875.) He directs that when, after emetic doses of sulphate of copper, the dyspnœa seems not to yield, a vapor-bath is to be given, as follows: A wooden vessel, containing eight to ten quarts of hot water, half to three-quarters of a pint of vinegar, and a handful of meal, is to be placed at the foot of a child's bed; a quilt is then to be suspended over the bed, so that one end is to cover the vessel, and the other so arranged that the vapor, in escaping, must pass over the child's head. A red-hot iron is then to be placed in the vessel, and left there so long as it developes the hot acid vapor. This bath is to be repeated every two hours, night and day, while there is any danger. The very best results may be anticipated from this method of treatment, and operative interference, even in acute cases, may often be prevented by energetically carrying it out.

Acidum Lacticum, as a solvent of false membrane in croup, is highly esteemed. The following is the formula of the London Throat Hospital:

86. ℞. Acidi lactici, ℥ ss.
Aquæ destillatæ, f. ℥ x. M.
Use with an atomizer.

Alumen was the favorite emetic in this disease, with the late Prof. Charles D. Meigs. He gave ʒj in molasses or honey, as required.

Antimonii et Potassii Tartras is still preferred as an emetic by some. Dr. Ellis prescribes:

87. ℞. Antimon. et potassii tartratis, gr. ij
Oxymellis scillæ,
Aquæ, āā f. ℥j. M.
Two or three teaspoonfuls every quarter of an hour, in the early stages of croup, to a child four years old.

Apomorphine is effective, but highly dangerous, as it exerts a paralyzing action on the respiratory organs.

Prof. Dujardin-Beaumetz recommends its use as an emetic, the dose being from $\frac{1}{30}$ to $\frac{1}{12}$ of a grain.

Argenti Nitras, dried and pulverized, and mixed with sugar, has been used for an insufflation in membranous croup, by Dr. Guillon, of Algiers.

Belladonna has considerable value in spasmodic croup. *Atropia*, hypodermically, gtt. iij of a one per cent. solution, has been used successfully by Dr. DePontives. (*Union Médicale*, 1878.)

Brominium is recommended by Dr. Redenbacher. (*Med. Cent. Zeit.*, 1879):

88. ℞. Brominii, gtt. v
Potassii bromidi. ʒj
Decocti altheæ, ℥iv.
Syrupi simplicis, ʒj. M.
A dessertspoonful to a child of seven years.

Calx. The odor from slacking lime, and lime-water as a gargle, are both valuable remedies. (See above.)

Chloral Hydras has been highly extolled by Dr. William Stewart, in spasmodic croup. (*Lancet*, May 25th, 1878.) He claims it to be the remedy *par excellence.*

Collodium Cantharidatum. In severe croup of diphtheria, when emetics give no relief, Dr. Musicautoff, of Warsaw, has found repeated outward applications of cantharidal collodion to the throat to yield very successful results. (Dobell, *Reports on Diseases of the Chest*, 1876.)

Cupri Sulphas is one of the best emetics in croup. To a child a year old, gr. ½, in some sweetened water, till emesis is produced.

Ferrum, in almost any of its preparations, is useful in strengthening the system and diminishing the excessive nervous sensibility which is so constantly a cause of laryngismus stridulus.

Hydrargyri Chloridum Mite, in large doses, is recommended on good authority.

Hyoscyamus is an excellent sedative. Dr. Da Costa recommends:

89. ℞. Extracti hyoscyami fluidi, ♏ij–x
Aquæ destillatæ, f. ʒj. M.
Used as an inhalation in spasmodic croup.

Oxygen inhalations are highly lauded by Dr. Joseph B. Potsdamer in the *Medical and Surgical Reporter*, 1880.

Petroleum Rectificatum, or kerosene, in doses of f. ʒj–iv, is a popular and successful remedy in croup. (See *Medical and Surgical Reporter*, April 14th, 1877.)

Potassii Chloras. Dr. J. F. Meigs speaks highly of this drug, which he com-

Potassium Iodidum. Dr. Taylor, of Baltimore, speaks highly of this drug, in bines with ferric chloride.

large doses (fifteen grains every two hours.)

Potassium Chloratis.

90. ℞. Potassii chloratis, gr. v–x
Tinct. ferri chloridi, ♏ij–v
Syrupi, f. ʒss
Aquæ, f. ʒij. M.
This much every three or four hours.

* *Quiniæ Sulphas*, given in the largest doses the child can bear, and during the intervals of the paroxysms, is a very satisfactory remedy, especially in weak and obviously nervous infants.

Valerian is highly recommended by Dr. G. Hill (*British Medical Journal*, April 11th, 1868,) who, however, neglects to mention the preparation and dose he employed. Dr. Ellis recommends in spasmodic croup:

91. ℞. Tinct. valerian. ammon., ♏v–x
Tinct. camph. comp., ♏v
Spiritûs chloroformi, ♏iij
Aquæ anethi, f. ʒij. M.
For one dose.

CYANOSIS FEBRILIS PERNICIOSA.

DR. F. WINKEL, OF GERMANY.

Under the more comprehensive title of *cyanosis febrilis enterica perniciosa cum hæmaglobinuria*, this author describes in the *Deutsche Med. Woch.*, 1879, a hitherto undescribed disease among new-born infants. The rate of mortality among the twenty-three children that were attacked was 82 per cent., and the average duration of the disease in the fatal cases thirty-two hours. The disease usually made its

appearance on the fourth day, but occasionally also on the first, and in one case as late as the twelfth. The children were all strong with the exception of a pair of twins, and only five had been fed artificially. The mothers all remained healthy. The chief symptoms were debility, cyanosis and icterus; the urine contained epithelial casts and blood corpuscles with detritus, and also urate of ammonia, and a small quantity of albumen. The stools were free and ochre-colored. There was no fever; on the contrary, the temperature fell; the colorless blood corpuscles increased in number, and the blood contained large masses of detritus of red corpuscles, with other minute bodies of molecular motion. The abdomen was soft and not tender, the liver pushed a little upward, and the organs of the thoracic cavity unchanged. In the course of the disease convulsions set in, with strong jerkings of the ocular muscles, convergent strabismus and rotation of the eye-ball. The œtiology is obscure and the treatment must be symptomatic.

DENTITION.

DR. EDWARD HENOCH, OF BERLIN.

This author adverts to the fact, that in the opinion of the majority of physicians teething is a physiological process that cannot give rise to any morbid phenomena, and expresses his conviction that it is questionable whether such a decided negation is always justifiable. He considers it conceivable that this slow process may have an irritating effect upon the dental branches of the trigeminal nerve, and give rise to reflex symptoms not only in motor, but also in vaso-motor nerves. He mentions cases in which partial spasms of the throat and neck muscles were undoubtedly connected with the perforation of a group of teeth. The undeniable fact, also, that obstinate vomiting, diarrhœa, or even a spasmodic cough, which have resisted all treatment, suddenly disappear as soon as one or a few teeth have passed out of the alveolus, can only be explained by reflex stimulation of peristalsis or of the vagus, starting from the dental branches of the fifth nerve. The question of lancing the gums to aid dentition is answered negatively by our author, who is convinced of its entire inutility, and thinks that the cicatrix which results may even hinder the passage of the tooth through the gums.

DR. ARMAND SEMPLE, OF LONDON.

This author agrees with Dr. Henoch that dentition does cause derangements of other and various parts of the body, though he deprecates the ideas of some who would attribute to this process nearly all the disorders arising at this time. He believes that any malady contracted at this period, such as whooping cough, measles or bronchitis, is increased in severity, and any disease to which the child may be predisposed is liable to development.

JAMES E. GARRETSON, M. D., D. D. S., OF PHILADELPHIA.

The diseases associated with the first dentition are the following:

1. *Localized Stomatitis*, associated with the eruption of the teeth. When tumefaction of the gum is dependent on this tooth eruption and the child is in a healthy condition, a certain evidence is found in the glistening character of the swelling; the part immediately over the tooth looks tense and feverish. This tense look may under all circumstances, be esteemed an indication demanding the use of the *lancet*. Much relief may also be afforded by applying *tincture of belladonna* to a gum thus congested; or a saturated solution of *bromide of potassium*. In unhealthy conditions the glistening referred to is not commonly present; and then relief from lancing is but gradual and inconsiderable. Stomatitis associated with the strumous, scorbutic or syphilitic cachexia, must be treated with reference to these general conditions. In *syphilitic stomatitis* the following combination exerts a very happy effect:

92. ℞. Hydrargyri chloridi corrosivi, gr. j
Potassii iodidi, ʒj
Syrupi ferri pyrophosphatis, f. ʒiv. M.
From a quarter to half teaspoonful, according to age, three times a day.

An admirable local application for the syphilitic sore mouth and throat is the following:

93. ℞. Acidi sulphurici aromatici, f. ʒij
Argenti nitratis, gr. vj
Infusi querci albi, f. ʒvj. M.
For local use.

In a scrofulous or syphilitic child general hygienic surroundings are very important. To prevent constipation *olive oil* may be given, q. s. When the kidneys fail to eliminate, small doses of sweet spirits of nitre

are called for; when the kidneys are irritable, a cold decoction of *buchu* is excellent.

94. ℞. Buchu, ℥j
Aquæ, Oiss. M.
Simmer to a pint. When cool, strain, and give a teaspoonful four to six times a day.

Inflammation of the fauces, *angina simplex*, is a not unusual extension of the stomatitis. If it becomes obstinate, three or four Swedish leeches may be applied to the upper part of the throat. Hot pediluvia and a saline cathartic (a teaspoonful of Epsom salts in a wine-glassful of water) are valuable accessories. An emetic dose of syrup of ipecacuanha will not unfrequently break up a sthenic sore throat. When the system sympathizes and there are general febrile manifestations, the following combination will be found happily adapted to the case:

95. ℞. Liquoris potassæ citratis, f.℥iij
Spiritûs ætheris nitrosi, f.℥ss
Pulveris antimonii et pot. tart.,
Morphiæ acetatis, āā gr. j. M.
For an infant of one year 5 to 8 drops every two hours.

When the angina becomes chronic, with feelings of tickling and rawness in the throat, gum arabic and jujube troches may be held in the mouth and allowed slowly to dissolve.

Or a gargle compounded as follows may be used *ad libitum:*

96. ℞. Tincturæ iodinii compositæ, gtt. xl
Acidi carbolici, gtt. vj
Glycerinæ, f.℥j
Aquæ, f.℥vij. M.
For a gargle.

Brushing the parts with the tincture of belladonna or with a saturated solution of the bromide of potassium is sometimes found to abort the trouble very speedily. A red pepper gargle or lotion is often valuable.

97. ℞. Tincturæ capsici comp., f.℥ss
Aquæ, f.℥viij. M.
For a lotion.

When local measures fail, the physician must address his remedies to the constitution. Scrofula or syphilis may be suspected.

2. *Dental Irritative Fever.*—This sometimes appears when there is no evidence of local inflammatory action about the gums. Of course,

if these are tense, they should be incised; if this is not called for, general measures are resorted to. Lemonade, prepared with crushed ice, to which bicarbonate of potash may be added, is a grateful refrigerant. Or a refrigerating mixture may be prescribed as:

98. ℞. Liquoris potassæ citratis, f. ℥iij
Potassii bromidi, ℥j
Aquæ, f. ℥j. M.
A teaspoonful as required.

Sponging the skin with water or alcohol, and bathing the wrists with cold water are soothing measures. Single-drop doses of veratrum viride, or tartar emetic, gr. $\frac{1}{10}$, in iced lemonade, are useful in sthenic conditions.

3. *Diarrhœa.*—Frequently, to cure a diarrhœa, or an attack of cholera infantum, all we have to do is to cut down upon a confined tooth. When this fails, either the lining membrane of the digestive canal has passed into a state of chronic irritation, or the diarrhœa has some other cause. In either event we might prescribe:

99. ℞. Olei olivæ, f. ℥j
Tinct. opii camphoratæ, gtt. v–x. M.
This amount every few hours.

Heating applications to the abdomen are very useful, as a spice plaster or mild sinapism. A very good combination to direct the irritability to the surface and thus relieve the affected parts, is:

100. ℞. Spiritûs ætheris nitrosi, f. ℥ss
Liquoris potassæ citratis, f. ℥ij
Antimonii et potassii tartratis, gr. ½. M.
Ten to fifteen drops every two hours.

When the diarrhœa has nothing inflammatory about it, the *bromide of potassium*, in 5-grain doses, acts most satisfactorily. The following combination is a valuable one, when other sources of irritation, not perhaps thoroughly appreciated, exist in conjunction with the dental trouble:

101. ℞. Hydrargyri chloridi mitis, gr. ij.
Pulveris opii,
Pulveris ipecacuanhæ, āā gr. j.
Magnesiæ carbonatis, gr. xij. M.
Make eight powders; one after each operation, if profuse; or every two, three, or four hours.

4. *Spasms.* The indications, when this complication arises, are to remove the irritation by lancing the gums, and to soothe and quiet the nervous system. For the latter, we may give the bromide of potassium, gr. v, as required; or the tinctures of valerian and gentian, equal parts, gtt. x, as required, or the excellent combination recommended by Dr. CHAMBERS:

102. ℞.	Potassii bromidi,			
	Tincturæ cantharidis,	āā	gtt. iij.	
	Misturæ camphoræ,		gtt. x.	M.

In a little water as often as needed.

When such measures as these do not relieve the convulsions, they may be presumed to have a deeper seat than dental irritation.

5. *Eruptions.* The consideration of dental irritation in infantile skin diseases is most important. Such irritation does not, in any manner, develop or create the distinctive features in a skin disease, but simply by exhausting the system, gives an opportunity for the eruption to break out. Its treatment must be that appropriate to its particular form, with what is additionally required by the irritation from the tooth.

DIABETES MELLITUS.

M. BERGESIO, OF ITALY.

This author says (*Archiv. di Patol. Inf.* 1884,) that though rare in the period of infancy, this disease does sometimes occur. It is more frequent among females than among males. The prognosis will be unfavorable in inverse ratio to the age, very young children being sometimes unable to undergo the reparative process. The treatment may be more radical than is usually possible with adults, because of our ability to entirely exclude farinaceous foods. Some of the preparations which are favorably mentioned on account of their curative influence are the wine of quinquina, hydrochloric acid (Bouchut), alkalies, either in powder or in liquid solution (Gerhardt, Guésinger, Von Altenbrenner), sulphate of iron (Heine), opium and its alkaloids (Rollo, Franck, and Tommasini), glycerine, and cod-liver oil. Anti-diabetic diet can be modified, but the author prefers a milk diet for patients under two years

of age. After weaning they may receive soup with yolk of egg, and certain vegetables and fruits, as cabbage, cherries, strawberries, almonds, etc.

DIARRHŒAL DISORDERS.

S. HENRY DESSAU, M. D., NEW YORK CITY.

This specialist in diseases of children gives his treatment of infantile diarrhœa, as follows:

In cases of simple diarrhœa occurring in teething children, where there is no fever present, and absence of pain on pressure over the abdomen, he generally administers a sedative, such as the *bromide of potassium*, in doses of gr. ij–iv every three hours, and insists upon careful attention to the diet of the child. If an astringent is found necessary:

103. ℞. Mist. cretæ, f. ʒj
Tr. catechu,
Tr. opii camph., āā gtt. iv. M.
This much every three hours.

When the patient has acquired a mixed dietary and presents the same symptoms of simple diarrhœa as before mentioned, the case being due to eating of improper food, if seen shortly after the commencement of the attack:

104. ℞. Ol. ricini,
Syr. rhei aromatici, āā f. ʒss
Sodæ bicarbonatis, gr. ij. M.
To be taken every half hour until the bowels have been freely evacuated, and afterwards to be taken twice or three times daily.

Where the stools present the condition of lientery, a tonic of quiniæ sulph. and tr. ferri chlorid. is given, together with 8 to 10 grs. of pepsin, taken with the food at meal time. Pepsin is also given in those cases of simple diarrhœa in growing children, where the stools are large, watery, frothy and of fœtid odor.

Where simple diarrhœa is met with in strumous children, he prescribes:

105. ℞. Ol. morrhuæ, f. ℥iij
Syr. prun. virg.,
Liq. calcis, āā f. ℥j. M.
One or two teaspoonfuls after each meal.

When change of temperature, commonly termed cold, is the cause of the diarrhœa, by some writers styled *intestinal catarrh:*

106. ℞.	Tr. opii camph.,	gtt. iv	
	Ext. ipecac., fl.	gtt. ¼.	M.

Given in a teaspoonful of equal parts of syrup and water, is prescribed for infants, and larger doses for older children. The castor oil mixture answers fully as well in such cases, and is more frequently given than the first-mentioned combination.

For summer complaint, appearing in a child undergoing dentition, where the evacuations are frequent and present the familiar green or chopped-spinach appearance, and also containing mucus and undigested curd, all more or less certain indications of inflammatory destruction; and when, moreover, during the first days of the complaint, it is attended with marked fever and tenderness upon pressure over the abdomen, and more especially in the region of the iliac fossæ, he at once places the child upon an antiphlogistic treatment:

107. ℞.	Liq. ammon. acet., or		
	Liq. potass. cit.,	gtt. xx	
	Tr. opii camph.,	gtt. iv–x	
	Ext. ipecac., fl.	gtt. ¼–½.	M.

To be given in a teaspoonful of anisette water.

The diet is to be carefully regulated, the breast to be given not oftener than every three hours, and if there be much vomiting, teaspoonful doses of toast-water, containing ice, to be given. In cases where vomiting appears as the principal symptom:

108. ℞.	Hydrarg. chlor. mit.,	gr. j	
	Sacch. albi,	gr. xv.	M.

Make sixteen powders. One to be given every two hours.

When the disease has progressed for several days, until the febrile symptoms have subsided, or where such changes appear in the evacuations, as before remarked, following a previous simple diarrhœa, he employs:

109. ℞.	Pulv. rhei,	gr. vj	
	Pulv. ipecac. co.,	gr. x	
	Sodii bicarb..	gr. xij.	M.

Make twelve powders. One to be given every three hours to a child under one year of age.

He sometimes uses the following, for the same age:

110. ℞. Vin. ipecac., gtt. ij
Tr. calombæ, gtt. xx
Mist. salinæ, f. ℥ ij. M.
To be given every three hours.

The mist. saline is made by adding lemon juice in sufficient quantity to neutralize 20 grains of carbonate potassa dissolved in f. ℥ j water. In addition to drugs and attention to diet, he generally recommends a hot bath to be given twice daily, and the baby to be wrapped in a blanket, after being dried, so as to invite free perspiration.

When this variety of diarrhœa presents itself in children over a year old, and in those under that age, also, where there are streaks of unaltered blood in the stools, he uses:

111. ℞. Bismuth. subnit., ℥ j
Pulv. ipecac. co., gr. xx
Pulv. zingib., gr. iij. M.
Make twelve powders. One to be given every three or four hours.

Where the disease has lasted for several months, and has assumed all the features of a chronic diarrhœa, whether the patient has completed dentition or not, he gives the cod-liver oil mixture before mentioned, (F. 105,)in the proportion of f. ℥ iijss to f. ℥ ss, of the syrup ferri iodid., a teaspoonful of which is to be given three times daily. It acts in the same beautiful and pleasing manner as in the simple diarrhœa of strumous children.

JAMES S. HAWLEY, M. D., GREEN POINT, N. Y.

In infantile diarrhœa, the indications are as follows: First, to remove all sources of irritation from the quantity or quality of the ingesta or change of temperature. Second, to allay irritation by sedatives, of which the best are the preparations of opium and salts of bismuth. When irritation without pain exists, *bismuth* most promptly and satisfactorily allays it; but when accompanied with pain, the addition of a minute portion of *opium* becomes a necessary complement to its effectiveness. Thirdly, artificial digestion, by the administration of *pepsin*.

112. ℞. Pulveris pepsinæ Americanæ,
Bismuthi subnitratis, āā ℥ j. M.
For ten powders. One to be given every three or four hours, to a child a year old.

Opium may be combined, if desired.

THOMAS HILLIER, M. D., F. R. C. P., ETC., LONDON.

113. ℞. Acidi gallici, gr. xij
Tincturæ cinnamomi, f. ʒ iss
Tincturæ opii, ♏ viij
Aquæ carui, q. s. ad f. ʒ ij M.

Two teaspoonfuls for a child two years old, with chronic diarrhœa and irritable stomach.

114. ℞. Olei ricini, f. ʒ ij
Pulveris acaciæ, ʒ j
Tincturæ opii, ♏ viij
Syrupi, f. ʒ ij
Aquæ carui, q. s. ad f. ʒ ij. M.

A teaspoonful for a child six years old.

A useful oleaginous mixture in dysenteric diarrhœa.

DRS. MEIGS AND PEPPER, PHILADELPHIA.

These writers recommend, in the treatment of *simple diarrhœa* in childhood, sulphate of magnesia combined with laudanum, as follows:

115. ℞. Magnesiæ sulphatis, ʒ j
Tincturæ opii deodoratæ, gtt. xij
Syrupi simplicis, f. ʒ ss
Aquæ menthæ, f. ʒ ijss. M.

At one or two years, a teaspoonful every two or three hours. For older children, the proportion of magnesia and laudanum should be doubled.

If this fails, recourse must be had to an astringent. The officinal mistura cretæ must be given in teaspoonful doses, after each loose evacuation, three or four times a day; or tincture of krameria may be added, thus:

116. ℞. Tincturæ krameriæ, f. ʒ j–ij
Misturæ cretæ, f. ʒ ij. M.

Teaspoonful repeated as above directed.

They also commend the *aromatic syrup of galls:*

117. ℞. Pulveris gallæ optimi, ʒ ss
Pulveris cinnamomi, ʒ ij
Pulveris zingiberis, ʒ ss
Spirituûs vini gallici optimi, ℥ss. M.

Let the ingredients stand in a warm place for two hours, and then burn off the brandy, holding some lumps of sugar in the flames. Strain through blotting paper. Fifteen to forty drops, three or four times a day, or, when the discharges are very frequent, every two or three hours.

In the chronic form of simple diarrhœa, they have found, of late years, the following tonic very useful:

118. ℞. Tincturæ nucis vomicæ, f. ʒ ss
Tincturæ gentianæ compositæ, f. ʒ iij
Syrupi simplicis, f. ʒ v
Aquæ, f. ℥ ij. M.

A teaspoonful three times a day, after meals, for children of three or four years of age.

Wine of pepsin is also efficacious in such cases, in doses of ½ teaspoonful thrice daily.

PROF. ALFRED VOGEL, M. D., DORPAT, RUSSIA.

This physician positively prohibits *cow's milk* in intestinal catarrh. He states that *penciling of the mouth with laudanum*, and the use of *opiate clysters*, stand at the head of all therapeutic measures. But, occasionally, in the profuse diarrhœa of summer, opium proves inefficacious; then order small doses of calomel, gr. ⅛, three or four times daily, or:

119. ℞. Argenti nitratis, gr. ss
Aquæ destillatæ, f. ʒ iij. M.

A teaspoonful three or four times a day. A drop of laudanum may be added to each dose.

Vegetable remedies containing tannic acid, such as calumba, rhatany, pure tannic acid itself, and astringents in general, are with difficulty administered to small children, unless mixed with large quantities of syrup, and, on that account, should be seldom resorted to. In older children, they may be oftener employed.

120. ℞. Aluminis, gr. vj
Syrupi acaciæ, f. ʒ iij. M.

A teaspoonful thrice daily.

This will sometimes check the diarrhœa, which has been uninfluenced by any of the above remedies.

Dr. V. has often convinced himself of the utter inefficacy of all therapeutic remedies in the treatment of this disease when the child is not sustained on milk diet.

The best prophylaxis consists in rendering the cow's milk given the child alkaline, by the addition of the following soda solution to each meal:

121. ℞. Sodii carbonatis, ʒj
Aquæ, f. ʒvj. M.

Several authors have very forcibly urged the importance of *cold* in infantile diarrhœa. Mr. E. Pocock, of London, invariably orders ice in large quantities, as well as frequent sponging with cold water, and he directs that all nourishment (unless the child be sucking) should be iced.

Dr. McKenna, also of London, in cases of great exhaustion, employed cold-water baths, stimulant ice injections, and iced drinks.

Cold baths especially are called for where there are marked cerebral symptoms. Dr. C. G. Comegys, of Cincinnati, has especially urged this treatment on the American profession. He says its great value is in cases where an inflammatory process is set up—enterocolitis, in which the discharges are more frequent, retaining, however, more or less the traits of the "loose bowels" so-called, with the addition of a high fever—102.5° to 106°. The pulse is much more frequent—130–150; the mouth is dry, the thirst intense; eyes staring, contracted pupils; insomnia, vomiting, rolling of the head, and distressing cries, due to hyperæmia of the cerebral vessels and the unappeased thirst. The frequent vomiting and diarrhœa inhibit digestion or absorption of nutritious substances, and the brain is imperiled, for an effusion is impending, and general collapse. In this alarming condition the greatest relief may be found in immersions of the body in cool or even cold water, from twelve to fifteen minutes, every three hours, until the fierce symptoms are relieved, and relief will positively be obtained. It has now been a number of years since Dr. C. adopted this method of treating enterocolitis, and he has not lost a patient.

He claims that the immersion plan is much better than the wet pack, because the radiation of the febrile heat is more rapid and equable from the surface of the body. He has also used the pack about the chest and abdomen for many years in private and hospital practice, and he considers it not only more troublesome to apply, but of greatly inferior effect. Internally, Dr. C. uses small doses of mercurials and rhubarb.

THEODORE TURK, M. D.

In the *Med. Chir. Centralblatt*, No. 1, 1873, this author says, in the more chronic cases a series of careful observations have shown him that roasted *acorns*, prepared as coffee, with a few beans of the real article,

form the best dietetic, and at the same time medicinal remedy. Often, when nitrate of silver, tannin, Dover's powder, etc., have proven useless, the simple acorn coffee (boiled, in cases of specially profuse diarrhœa, with from one to three grains of tannin, and in meteorism or sickness, with the addition of a piece of orange-peel to the decoction,) has, from the first, lessened the stools and improved their quality, and very shortly restored the appetite and nutrition. At the same time the children become, not fat, but healthy. The acorn coffee is more efficacious than alkalies, preparations of lime, tonics (Peruvian bark and extract) and carminatives. Moreover, the children drink it readily, without becoming tired, and the painful, formal, and frequent administration of medicine is avoided.

DR. BLACHE, PARIS.

This author in the *Journal de Therapeutique*, May, 1878, gives the following as his treatment in all cases, modifying it according to circumstances: 1. Reduction of the quantity of food given; suitable injections, repeated according to need, and poultices on the belly. 2. The administration each morning, during three, four, or five consecutive days, of a small teaspoonful of equal parts of *castor oil* and syrup of gum arabic, simply emulsified by shaking the bottle at the time it is used. When the child is under six months old, 15 drops of castor oil are enough for a dose; and if from six months to two years old, from f.ʒss to f.ʒj are necessary.

If after the second day the diarrhœa be less but has not entirely disappeared, no more of the medicine should be given than on the day before. On the other hand, if the stools be particularly fœtid and glairy, another dose must be given on the same evening, as well as on the next day. If the case be one of profuse liquid diarrhœa, recurring twelve, fifteen, or even more times, in the twenty-four hours, the mixture must be altered, doubling or trebling the dose of gum, and adding a little vinum opii, from one to three drops, at the most, according to age, in the four and twenty hours, and the medicine must be repeated every two or three hours.

The object or effect of this castor oil treatment is to cleanse the mucous membranes, which it modifies, without, however, purging, in the general acceptation of the term. Injections are equally useful. First, a large injection of chamomile tea is given, followed in twenty minutes

by a small injection of starch. These are repeated whenever a series of four or five actions of the bowels occur in the space of from six to ten hours. In the latter case, bran or marsh-mallow is substituted for chamomile. As to the astringents, more especially bismuth, so often used in these cases, Dr. Blache distrusts them, as they may bring on convulsions, doubtless by preventing the cleansing of the mucous membrane.

DR. JAMES L. TYSON, PHILADELPHIA.

The treatment of this practitioner is by cold baths, chloral enemas and *oxide of zinc*.

The cold bath is insisted upon at least three times a day, but not at a lower temperature than 80°–85° Fahr.

The enema he uses is:

122. ℞. Chlorali hydratis, ʒss
Aquæ amyli, f. ʒij. M.

For an enema. One to two and a half teaspoonfuls to be forcibly thrown into the bowels from a small glass syringe.

In some cases where the discharges were lienteric and the tenesmus excessive, this spasmodic action of the sphincter and lower bowels could only be controlled by repeated resort to the remedy, two or three applications being requisite before it could be retained, and then only by directing the nurse or mother to compress the glutæi muscles on either side, close over the anal orifice, for two or three minutes. When thus kept in immediate contact with the inflamed, sensitive, and irritable tissue, the benefits were prompt and enduring. Tenesmus, or choreal spasm of the bowel, was arrested, pain and inflammation were allayed, and the little sufferer would rest or sleep comfortably for several hours. A repetition of the enema was made once, sometimes twice, in the twenty-four hours, with increased comfort and alleviation of all the symptoms.

The oxide of zinc is administered as follows:

123. ℞. Zinci oxidi, ʒss
Pulv. acaciæ,
Sacchari albi, āā ʒij
Lactopeptinæ, ʒj
Aquam cinnamomi, q. s. ad f. ʒj. M.

A teaspoonful every five or six hours.

This combination exerts a happy influence on the primæ viæ, enab-

ling the child to digest its food more thoroughly, and controlling the number while it alters the character of the evacuations in a day or two. It is needless to add that strict attention to diet should be enforced.

DR. ARMAND SEMPLE, OF LONDON.

This author tells us that the treatment of diarrhœa must, in a great measure, depend upon its causation. Very careful attention must be paid to the diet. The age of the child and its constitution must be regarded, and particular notice should be paid to the gradual or sudden nature of its illness. Before the appearance of teeth, milk in some form must be relied upon, and all farinaceous food must be forbidden; a small quantity of lime water is a useful addition to the milk. Simple diarrhœa, arising from irritation of the lining membrane of the bowels, must not be too hastily checked, since by this means nature eliminates the offending matter; but if the diarrhœa continues, it must be checked by such remedies as castor oil or rhubarb, soda and magnesia. In older children grey powder with Dover's powder will be useful, or the administration of a little bismuth. As a rule, it is a mistake to give astringents in the early stages of diarrhœa; the best plan being first to eliminate the offending matters, and subsequently to check the diarrhœa, if it is excessive. If the child is strong, the motions containing blood or mucus, and there is no pain in the abdomen, a mixture of tincture of rhubarb, sulphate of magnesia and peppermint water may prove serviceable. If there be much exhaustion, a few drops of brandy may be given in weak milk or arrow-root. For the treatment of bilious diarrhœa, alkalies, especially soda, may be combined with one or two minims of tincture of opium; but this last drug must be administered with the greatest caution in the case of very young children.

DR. EDWARD HENOCH, OF BERLIN.

This author gives us some very explicit advice for the treatment of diarrhœa. He says that in the treatment of a recent catarrhal diarrhœa, we must first determine whether it was preceded by constipation and also whether an attack of indigestion was the exciting cause of the disease. Under such circumstances it is best to begin with a mild purgative, a teaspoonful of castor oil, or a few doses of calomel ($\frac{1}{12}$ to $\frac{1}{2}$ gr.), especially if tenesmus is present and the passages are small in quantity and mixed with bloody points or streaks. After the purgative has

operated, the diarrhœa not infrequently disappears in a few days. As almost all primary intestinal catarrhs of childhood have a dyspeptic origin, we may use purgatives at first in almost every fresh case, even if the causative indigestion and dyspepsia cannot be positively proven. But if profuse, thin evacuations have lasted for some days or exposure or the misuse of a purgative, such as tartar emetic, can be proven to be the cause, he would keep the child warm in bed, give only farinaceous food and prescribe

124.	℞.	Infus. ipecac. rad,	f. ʒiij	
		Mucil. gum. arab,		
		Syr. simpl,	āā f. ʒ iiss	
		Tinct opii,	gtt. ij–iv.	M.

S.—Dessertspoonful every two hours.

If the diarrhœa resists these remedies and lasts for a week or more, he uses subnitrate of bismuth in large doses.

125.	℞.	Bismuthi subnit,	gr. $\frac{1}{6}$–$\frac{1}{3}$	
		Pulv. gummosi,	gr. j.	M.

S.—Give this powder every two hours.

This should be continued for from ten to fourteen days to prevent a relapse. In very obstinate cases he adds the aqueous extract of opium, $\frac{1}{20}$ to $\frac{1}{12}$ gr. to each powder. Some cases become chronic in spite of all these measures. He then uses

126.	℞.	Decoct. rad. colombo,	f. ʒiij	
		Syr.	f. ʒ v	
		Tinct. opii,	gtt. iv.	M.

S.—A dessertspoonful every two hours.

Or,

127.	℞.	Decoct. cort. cascarillæ,	f. ʒ iij	
		Syr.	f. ʒ v	
		Tinct. opii,	gtt. iv.	M.

S.—Dessertspoonful every two hours.

These remedies are very effective, though difficult of administration on account of their bitter taste.

Tannic Acid may impair the already diminished appetite, but is sometimes very useful.

128.	℞.	Acid. tannici,	gr. xv	
		Tinct. nucis vom,	gtt. xv	
		Aq. destil.,	f. ʒ iij	
		Syrup,	f. ʒ v.	M.

S.—Dessertspoonful every two hours.

He has sometimes used the following with success in apparently hopeless cases, and has never observed any injurious toxic action.

129. ℞. Plumbi acetici, gr. ¼
Pulv. gummosi, gr. j. M.
S.—Give this powder three times a day.

But all these remedies may prove useless or even act injuriously, by producing anorexia, nausea or vomiting. For such cases he resorts to the injection or pouring of medicinal fluids into the intestines, a plan which may produce surprising results if faithfully carried out. He employs an ordinary irrigator or glass funnel, to which a rubber tube, with an end piece of bone or ivory is attached. The end passed into the rectum, should be free in its cavity, so that the fluid can escape. The injections are best performed in the knee-elbow position, but it can also be done in right lateral decubitus. As a rule he employs a solution of acetate of lead, more rarely, alum and tannin. This method requires persistent use, as a favorable effect cannot be expected in the first few days. Regulation of diet, without which recovery is impossible, meets with great obstacles in children. It should be confined to meat-broths, milk, red wine, soups, eggs, rice, farina, and finely chopped meat; all articles which have a tendency to ferment—vegetables, fresh and cooked fruit, leguminous articles, etc., must be prohibited. The only objection to raw scraped meat is that it may give rise to tape-worm.

PROFESSOR ROSSBACH, OF JENA.

Prof. Rossbach, in Jena, has made a series of observations (*Deutsch Med. Zeitung*, 1884), and discovered that in all catarrhal conditions of the intestines, whether they co-existed with ulcerations or not, also in all inveterate chronic intestinal affections, and in those of the small intestines as well as in those of the large bowels, provided they did not depend upon organic, incurable diseases, as cancer, etc., *naphtalin* was a specific, and invariably caused the disappearance of the malady. He never noticed any bad side or after-effect, and most of the naphtalin passed off again by the bowels, while a small percentage of it, changed to phenol, made its appearance in the urine. The usual dose for adults was from eight to ten grains daily. The remedy had also a very favorable influence upon all cases of vesical catarrh, the purulent discharge at once ceasing, and he attributes its beneficial effect in such cases to

the changing of naphtalin to phenol in the urine—as phenol, especially in the nascent state, is a very powerful aseptic remedy, at once destroying all micro-organisms with which it comes into contact.

Patients generally do not object to the taste of naphtalin, if it is purified and obtained by sublimation; as a corrigens for its odor, a few drops of bergamot oil can best be recommended. He found it especially valuable in the diarrhœa of children.

DR. H. C. SHUTTEE, OF MISSOURI.

Prophylactic measures are of the first importance, for by a proper regimen and attention to ordinary hygienic conditions, the disease may be reduced to the minimum. After the disease is once established, dietetic measures are of the greatest importance. A favorite prescription with this author is some good preparation of *pepsin* alternated with *tannin*. *Aromatic sulphuric acid*, combined, if there is any gastric irritability, with *creasote* or *carbolic acid*, is excellent.

DR. J. LEWIS SMITH, OF NEW YORK.

This author (*Archives of Pediatrics*, 1884), urges strongly the importance of not over-feeding infants in summer, since the surplus of food over and above that required for nourishment, will undergo fermentative changes and thus become a potent cause of summer diarrhœa. In conjunction with Dr. Chadbourne, of New York City, he has made some important experiments upon the amount of food required by young children, and as a result he concludes that under the age of two months the stomach is so small that it cannot receive more than one or one and a-half fluid ounces without distension; at the age of six months, the infant can probably take and digest, without discomfort, three ounces, and in the last half of the first year, even four ounces. Infants nourished at the breast may be allowed to nurse every two hours, during the daytime, no matter what the age, after the second month; but less frequently at night, for frequent nursing promotes the secretion of milk, and the milk is of better quality than when it is long retained in the breast. If, by the fifth or sixth month, mothers or wet-nurses find, as is frequently the case, that they do not have sufficient milk, other food should be given in addition, perhaps after every second nursing, or every fourth hour. By knowledge on the part of the mother and nurse of the dietetic needs of the infant, and by consequent judicious alimentation, and by measures also to procure the utmost purity of the

air, there can be no doubt that summer diarrhœa can be, to a great extent, prevented.

Curative Treatment.—The indications for treatment are: 1st. To provide the best possible food. 2d. To procure pure air. 3d. To aid the digestive function of the infant. 4th. To employ such medicinal agents as can be safely given to check the diarrhœa. The infant with this disease is thirsty, and is therefore prone to take more nutriment than it requires for its sustenance. If nursing, it craves the breast; or, if weaned, craves the bottle at short intervals to relieve the thirst. No more nutriment should be allowed than is required for nutrition, for the reason stated above, and the thirst may best be relieved by a little cold water, gum-water, or barley-water, to which a few drops of brandy or whisky have been added.

When the child for some good reason cannot receive human milk, Dr. Smith gives the preference to pancreatized milk. Five grains of extractum pancreatis (Fairchild & Co's), and ten grains of sodium bicarbonate, are added to one gill of warm water. This is mixed with one pint of warm milk, and the mixture, in some convenient vessel, is placed in water kept at a temperature of 100°F. for one hour, or less time if it begin to be bitter, when it is placed upon ice to prevent further digestion. With some specimens of milk, especially at a temperature of 115° or 120°F., a half hour, or even less, is sufficient. The artificial digestion is arrested either by boiling the peptonized milk, which destroys the ferment, or by reducing its temperature to near the freezing-point, which renders it latent and inactive but does not destroy it.

Milk from healthy, properly-fed cows may be prepared without peptonizing so as to agree with many infants, except in the warmest weather, but is obviously less easily digested than peptonized milk. It should be diluted as follows, with water boiled so as to free it from germs: In the first week after birth, one-fourth milk, with the addition of a little sugar. The milk should be gradually increased so that it is one-third by the end of the fourth week; one-half by the end of the third month; and two-thirds to three-fourths by the end of the sixth month. After the sixth month it is still proper to add one-fourth water, but pure milk may be given.

It is very important to determine when and how farinaceous food shall be given in this disease. It is well known that infants, under the

age of three months, digest starch with difficulty and only in small quantities, since the salivary and pancreatic glands, which secrete the ferments which digest starch, are almost rudimentary at that age. But the artificial digestion of starch is easily accomplished. Among the last labors of the renowned chemist, Baron Liebig, was the preparation of a food for infants, in which the starch is digested, transformed into grape-sugar, and thus infants at any age, who are fed with it, are relieved of the burden of digesting it. The Baron led the way, which has been so successfully followed since, in the artificial digestion of foods. A considerable part of the starch in wheat-flour is converted into grape-sugar by the prolonged action of heat. He frequently recommends that from three to five pounds of wheat-flour be packed dry in a firm muslin bag, so as to form a ball, placed in water sufficient to cover it constantly, and kept over the fire three or four days. During the nights the fire may go out for a few hours. At the expiration of this time, the external part, which is wet, being peeled off, the remainder resembles a lump of yellowish chalk. The flour grated from it gives a decided reaction of sugar by Fehling's test. Starch is also quickly transformed into glucose by the action of the diastase of malt, which indeed Liebig employed. If to a gruel of barley-flour, oatmeal, or other farinaceous substance, when hot, a little of a good preparation of extract of malt, as that prepared by Trommer & Co., at Fremont, Ohio, which acts promptly, or by Reed & Carnrick, be added, it becomes thinner from the conversion of the starch into sugar. Farinaceous substances thus prepared may be used with peptonized or other milk.

To select the best food for the infant is one of the most important duties of the physician. If called to an infant, unfortunately deprived of wholesome breast milk, and suffering in consequence from indigestion and diarrhœa, he would advise as follows: Use cow's milk of the best possible quality, and peptonized in the manner stated above, and peptonized in small quantity at a time, as one pint, or better, half a pint. This may be the sole food till the age of five or six months. Farinaceous food can be allowed in addition even to young infants, if a considerable part of its starch be converted into glucose. His preference as regards farinaceous food is for the wheat-flour prepared by long boiling. For infants under the age of six months, one tablespoonful of the flour thus prepared should be mixed with twelve tablespoonfuls of water, and heated. To one teacupful of this, one-half teaspoonful of the extract

of malt (as Trommer's extract prepared for children) should be added. The diastase of the malt quickly converts a considerable part of the starch that has not already been converted by the boiling into glucose. The glucose renders it sweet and palatable, and a little salt should be added to it. It does not seem to mix well with peptonized milk, and can be given separately through a nursing-bottle. He usually makes it the vehicle for brandy or whisky, which infants with diarrhœa usually require. It is also a good vehicle for albumen. If the digestion of the infant be feeble, as in atrophic cases, and it seems to require more nutriment, the white of the fresh egg mixed with the food aids in supplying the deficiency, and it is easily digested even by atrophic infants.

Beef, mutton, or chicken-tea should not be employed, at least as it is ordinarily made, since it is too laxative. Occasionally for the older infants the expressed juice of beef, raw scraped beef, or beef-tea prepared by adding half a pound of lean beef finely minced to one pint of cold water, allow it to stand cold half an hour, and then warm it to a temperature not exceeding 110° for another half hour. By this process the albumen is preserved. Salt should be added to it, and he is in the habit of adding to it also about seven drops of dilute muriatic acid, to facilitate its digestion. It is chiefly for infants over the age of ten months that the meat-juices are proper.

An infant weakened and wasted by the summer diarrhœa, removed to a cool locality in the country, should be warmly dressed, and kept indoors when the heavy night dew is falling. Patients sometimes become worse from injudicious exposure of this kind, the intestinal catarrh from which they are suffering being aggravated by taking cold, and perhaps rendered dysenteric.

Sometimes parents, not noticing the immediate improvement which they had been led to expect, return to the city without giving the country a fair trial, and the life of the infant is then, as a rule, sacrificed. Returned to the foul air of the city while the weather is still warm, it sinks rapidly from an aggravation of the malady. Occasionally the change from one rural locality to another, like the change from one wet-nurse to another, has a salutary effect. The infant, although it has recovered, should not be brought back while the weather is still warm. One attack of the disease does not diminish, but increases, the liability to a second seizure.

DR. LEES, OF ENGLAND.

This author (*Lancet*, 1884), calls attention to a form of diarrhœa in which the main symptom is an irresistible impulse to defecation almost as soon as food is taken; pain may or may not be present; there are no symptoms of dyspepsia. The passages are usually semi-solid, not watery or slimy, and frequently contain undigested food; usually a passage after each meal and one or two more in the twenty-four hours. The explanation given is that of increased peristalsis without increase of secretion. It is probably due to irritation of the vagus. The close connection of the nucleus of the vagus with that of the fifth nerve, suggests that probably dentition may sometimes be a reflex cause. Astringents had always failed signally in the treatment, but remedies directed to the neurotic origin, such as opium and especially the bromides, had always given prompt relief.

DR. GUAITA, OF ITALY.

According to this writer (*Gaz. Degli Ospitali*, 1884), the summer diarrhœa of children is due to a microbe, is a zymotic disease. Acting upon this supposition, the author used benzoate of soda with very good results. The following is the plan of treatment which was adopted: A moderate purge of calomel or jalap was first given, and then from one to one and a half drachms of the benzoate in three ounces of water, in divided doses, during twenty-four hours. The same quantity was given upon the second day, and upon the third a mild purge of magnesia or manna, after which the benzoate was resumed. Improvement invariably began after two days, the stools becoming less fetid, and the vomiting ceasing. During the treatment little food was given, but in its stead lemonade and generous wine. Milk and soup were entirely discarded, the former because it had been observed that its use, especially in the form of cow's milk, was followed by fermentation, and consequently by an increase in the severity of the disease. When the patients were nursing children, they were allowed to take the breast only four times in the twenty-four hours. In addition to the benzoate of soda, other medication might be employed in all cases in which it would seem to be indicated.

DR. J. V. SPRING, OF ARKANSAS.

After decrying the use of opium in gastro-intestinal inflammation of infants and children, this author describes his treatment as follows

(*Mississippi Valley Medical Monthly*, 1881). He has a tan bath prepared, by boiling red or black oak bark, until he gets the ooze as strong as it can be made in a short time. Then, while at a temperature of 75° or 80° F. he places the child in the bath, having enough liquid in the bath to come up to the shoulders when the patient is in a sitting posture, and keeps him there until all restlessness passes away and he becomes quiet, which, in some cases may take ten or fifteen minutes. Then rub him well with a coarse towel and anoint the body thoroughly from head to foot with cod-liver oil, place large cloths saturated with the bark ooze over the stomach and bowels, wrap him in flannel and put him to bed, withdrawing all other treatment, and keeping water and every kind of nourishment out of the stomach. Repeat the bath and cod-liver oil every three or four hours, until all bad symptoms give way. He then gives

130.	℞.	Bismuth. subnit,			
		Cretæ preparatæ,	āā	ʒij	
		Syr. bals. tolu,		f. ʒj	
		Aquæ menth. pip,		f. ʒiv.	M.

S.—Teaspoonful every three hours.

When quinine is indicated, he gives each dose in a teaspoonful of the above mixture.

DR. A. M. CAMPBELL, OF GEORGIA.

The history of a number of cases of choleraic diarrhœa in infants, treated by *Koumiss* is given by Dr. A. M. Campbell, in the *Obstetrical Journal*, 1880. In administering *Koumiss*, the gas should first be expelled, by pouring the contents from one bottle to another. Begin with small doses, gradually increasing the amount; and, when the stomach will bear it, barley water may be used to quench thirst. Before returning to a full milk diet, it is better, for a few days, to use one of the prepared foods.

DR. WILLIAM B. ATKINSON, OF PHILADELPHIA.

In the *Medical and Surgical Reporter*, 1880, this author thus sums up the subject. When the case is seen early, and the symptoms lead to the belief that the attack is the result of the presence of indigestible or undigested matter in the bowels, (for either, being a foreign body, acts as an irritant,) a small dose of castor oil, of calcined magnesia,

or of the spiced syrup of rhubarb may be given, with the view of expelling such matters. It is rarely necessary to continue, or even to repeat these remedies. With a proper regulation of the diet, of the hygienic conditions, etc., in very many cases, the attack ceases, and no further medication is requisite; or a few doses of aromatic powder, v–x grs. every two hours, will complete the cure. Should the looseness of the bowels continue, it becomes necessary to employ an astringent; an alkali if there is much acidity; and some form of narcotic to relieve pain.

Of astringents, catechu, kino, and logwood are most frequently employed.

As antacids, we have bicarbonate of soda, or potassa, lime water, chalk mixture, and bismuth.

Perhaps no formula can be employed with better result, in the great majority of cases, than one combining the subnitrate of bismuth with the compound powder of ipecacuanha.

For a child, one year old, we may give—

131. ℞. Pulv. ipecac comp., grs. vj–ix
Bismuthi subnitrat., ʒj. M.
Ft. chartulæ, No. xij.
Dose.—One every two to four hours, according to the urgency of the symptoms.

In cases where for any reason a mixture is preferable, we may use—

132. ℞. Bismuthi subnitrat., ʒij
Tincturæ opii camph., f.ʒiv
Syrupi simplicis,
Mucilag. acaciæ, āā f.ʒiss. M.
Dose.—Teaspoonful, as before.

It must not be forgotten that blackening of the stools will result from the use of bismuth, and this fact should be mentioned to the mother, as in some instances this condition has created great alarm, as portending a grave complication.

When acidity is a prominent symptom, we may employ with the bismuth the compound powder of chalk, with opium, in doses of one to three grains for a child of one year.

In all cases where opium is employed it is important to watch its effects, and where drowsiness or cerebral symptoms occur, it should at once be omitted. Should a child die comatose, it is difficult to dissuade

its attendants from the belief that it has died from the effects of opium. It seems that the whole benefit obtained from the use of this drug is the so-called "putting the bowels in splints." It checks the peristaltic action, quiets the restlessness due to the pain, and thus allows nature to return to her proper condition.

In this connection, we must insist upon the great importance of *rest in the horizontal position*. This is constantly forgotten; the child is carried about over the shoulder of the attendant, jolted on the knee, or in a rough rocker, thus keeping the bowels in a perpetual turmoil. We see the good effects of rest by the almost invariable improvement after a good nap. Therefore, never disturb a child from its sleep, even though the hour for giving the medicine may be at hand.

In persistent cases we may give:

133. ℞. Tr. catechu,
Tr. krameriæ,
Tr. kino, āā f. ʒ ij
Tr. opii camph., f. ℥iv
Spt. ammoniæ aromat., f. ʒ ij
Syrup. simp.,
Aq. cinnamomi, āā f. ʒ iss. M.

Dose.—Dessertspoonful every two to four hours, according to age and urgency of symptoms.

Where, for any reason, the alcohol may be objectionable, we may employ astringent infusions of catechu in doses of one or more teaspoonfuls, repeated as above.

When the discharges are quite offensive, the addition of a small quantity of the solution of chlorinated soda, two to five drops in each dose of the astringent mixture, will correct this trouble and aid in the cure. We prefer this to the use of carbolic acid, which rarely fails to prove so offensive to the child that it obstinately refuses to take the mixture.

An old formula, and one which we have seen to be of great service both in chronic and other forms of diarrhœa, is the mixture of nitrous acid with opium and camphor water.

134. ℞. Acidi nitrosi, ♏xxv
Tr. opii, ♏xv
Aq. camphoræ,
Syr. simp., āā f. ʒ iss. M.

Dose.—Teaspoonful every three or four hours.

In a number of instances this has given most excellent and speedy

results. Where opium may be contraindicated, we may substitute extract of hyoscyamus, say half a grain in each dose.

We always prefer to give the above doses in two or three times the quantity of solution of acacia, or rice or barley water.

In cases of great restlessness employ the bromide of potassium or sodium, or chloral, or the bromide and chloral may be usefully combined, as mentioned previously. Rest is imperatively demanded for the cure of this condition.

When the skin is hot and dry, tepid sponging is of great value, and by itself often gives so much comfort that the little patient sinks into a refreshing slumber, perhaps the first it may have had for several days.

In cases where much flatulence is present, perhaps no remedies are more useful than chloroform and turpentine. The former may be employed in a formula like the following:

135. ℞.	Chloroformi,		gtt. xxx	
	Tr. opii camph.,			
	Tr. cardam. comp.,	āā	f. ʒij	
	Mucilag. acaciæ,			
	Syrupi simplicis,			
	Aq. menthæ viridis,	āā	f. ℥j.	M.

Dose.—Teaspoonful every hour, or even every half hour, or oftener, as occasion demands.

The turpentine may be given as follows:

136. ℞.	Ol. terebinthinæ,		f. ʒj	
	Tr. opii camph,,			
	Tr. cardam. comp.,	āā	f. ʒij	
	Magnesiæ calcinata,		gr. x	
	Mucilag. acaciæ,			
	Syrupi simplicis,	āā	f. ℥iss.	M.

Dose.—Teaspoonful every two or three hours.

In all cases it is well to commence early with some tonic, and we have found the best and most useful to be the solution of the per-nitrate of iron with calumbæ, as mentioned in the previous paper.

During the treatment the physician must constantly remember that the child requires food as well as medicine. Give milk, with a due proportion of lime water, with stimulants added as required, beef essence, beef or mutton tea, chicken, or rice water, also cold water freely. Nothing is gained by cruelly keeping the child suffering with thirst.

DR. C. A. EWALD, OF BERLIN.

This author states in a monograph (1879), that he has employed ice-

water injections for more than a year, in those forms of diarrhœa, especially of children, which depend on some alteration of the colon. After each stool he injects from 200 to 300 ccm. of cold water, which is caused to run out again by slight pressure on the abdomen; then he injects 50 ccm. to be retained. The effect of this treatment is surprisingly good, and the mothers readily give their consent to it.

DR. A. JACOBI, OF NEW YORK.

In the *American Journal of Obstetrics*, 1879, Dr. Jacobi very fully covers the ground of treatment in diarrhœa and dysentery of infants. So far as nutriment is concerned, the amount of food should not be larger than we have reason to expect can be easily digested. At all events, either lengthen the intervals between the meals or reduce the quantity of food given at one time, or both. When diarrhœa makes its appearance in infants who have been weaned, it is desirable to return them to the breast. Those who never had breast-milk may be given the breast if they can be induced to take it, but only rarely will this be found possible. Whenever a child at the breast is taken with diarrhœa, the passages from the bowels should be studied as to their contents. If a certain amount of curd is found in them, the least that is to be done is to mix the breast-milk with barley-water. This may be done in such a manner that, each time before nursing, one or two teaspoonfuls of barley-water is given the child, so that the farinaceous food and the breast-milk will mix in the stomach. Or, it may be found advisable to alternate breast-milk and barley-water. In bad cases, particularly when the milk is found to be white and heavy and contains a great deal of casein, it will be found necessary to deprive the child *altogether* of its usual food. In such cases, the child will do better on barley-water alone (this to be continued for one or two days) than to expose it to the injury which will certainly follow the continuation of the casein food.

When diarrhœa occurs in children who have been fed alone upon cow's milk, unmixed or mixed, it is necessary to reduce the quantity of cow's milk in the mixture. As a rule, we have to remember that cow's milk alone is apt to produce diarrhœa, and it should be considered as a maxim that, whenever diarrhœa makes its appearance, the amount of cow's milk given to the child should be reduced. When a mere reduction of the quantity does not suffice, it is very much better to deprive the child of milk food altogether. Not infrequently the re-

moval of milk from the bill of fare is the only thing which will restore the child to health. It is possible that a mixture, such as recommended by Dr. RUDISCH, of which I have spoken before, will be found digestible, even in such cases. My experience, however, is not sufficient to decide that point. In many cases as a dietetic measure, it will be found advisable to add one or two tablespoonfuls of lime-water to each bottle of food with which the child is supplied.

In those cases in which barley-water does not seem to suffice as a nutriment, or where it would be dangerous to allow children to lose strength, a mixture which I have used to great advantage is the following: Mix the white of one egg with four or six ounces of barley-water, and add a small quantity of table salt and sugar, just sufficient to make the mixture palatable. The child can take this either in large or small quantities, according to the cases.

In such cases in which the stomach is irritable and vomiting has occurred, it is now and then better to give a small quantity, even one or two teaspoonfuls, and repeat the dose every ten, fifteen, or twenty minutes, than to give large quantities at longer intervals.

In those in which the strength of the child has suffered greatly, it is necessary to add brandy to the mixture in such quantity that the child will take from one drachm to one ounce (grammes 4.0 to 30.0) more or less, in the course of twenty-four hours.

In those extreme cases in which the intestinal catarrh is complicated with gastric catarrh, where the passages are numerous and copious, and vomiting constant, where both medicines and food are rejected, there is frequently but one way to save the patients, and that is to deprive them *absolutely* of everything in the form of either drink or food or medicine. It is true that such babies will suffer greatly from thirst for an hour or two, but it is a fact that, after two or three hours, these children will look better than before the abstemious treatment was commenced. Not infrequently four or five hours of total abstinence will suffice to quiet the stomach and diminish both the secretion and the peristaltic movement of the intestinal tract. In some cases *six* or *eight* hours of complete abstinence will be required; or such children may be starved for even *twelve* or *sixteen* hours, with final good results. The first meals afterwards must be quite small, and they will be retained, and, as a rule, such children will subsequently do well.

I need not here say that, in addition to the dietetics for the digestive organs, it is necessary to supply the patient with as much cool, fresh

air as possible. The worst out-door air, when cooler, is better than close in-door air. The undeveloped condition of the nerve-centre in the normal infant, the relaxation of the inhibitory nerves by heat, the absence of radiation from the surface, the lacking stimulus—during hot weather—of the cutaneous sensitive nerves, the diminished metamorphosis of tissue, the diminution of the powers of digestion, not only by shortening nutrition, but by directly lowering the secreting powers of digestive glands in the stomach and intestines, are just as many factors in the production of the very worst forms of infant diarrhœa. I have kept very bad, desperate cases out all night upon the bluffs over the East river. The windows must not be closed. If possible, the children should be sent immediately to the country and into the mountain air.

The second indication consists in the removal of undigested masses retained in the intestinal tract. Not only in cases in which the diarrhœa has resulted from previous errors in diet of the child, but also in those cases dependent upon sudden changes of temperature and exposure, it is desirable to empty the intestinal tract of its ballast. For that purpose castor oil, calcined magnesia, or calomel may be used. So far as the latter is concerned, the discrepancy of opinion with regard to its efficiency will probably be found to depend upon the variation in the size of the doses recommended by different authors. When a purgative effect is desired it should not be given in small doses, and, according to age, from *two* to *six* (0.1–0.4) grains should be administered.

3. Nothing should be given that contains salts in any sort of concentration. Thus, beef tea should be avoided. It has come very largely into use in practice among children, both in this country and in Great Britain. In Germany, too, it has found very many advocates, and among some who have abandoned the obsolete notion that when prepared in the customary way it contains a large proportion of protein in its composition. It must be remembered that this form of meat extract contains a very large amount of salts, and that the direct effect of these upon the intestinal canal may be productive of very unpleasant consequences. It is a mistake to give it when the intestines are irritated or very susceptible of irritation, for the reason that diarrhœa is apt to directly follow its use. Nevertheless, I have often seen beef tea given under these very circumstances, for no other object than the vain one of furnishing the child with a great amount of nourishing food. This is very commonly done during the obstinate and exhausting diarrhœa of summer. If the people insist upon giving it, and there is no special

contra-indication to its use in a given case, it should be administered only in connection with some well-cooked farinaceous vehicle, and the best of all for this purpose is barley-water; or it may be mixed with beaten white of egg, but no more chloride of sodium should be added—for the main danger in beef tea is the concentrated form in which its salts are given.

4. Everything should be avoided that increases peristaltic motion. Thus, carbonic acid and ice internally.

5. Avoid whatever threatens to increase the amount of acid in the stomach and intestinal tract. There is so much acid in the normal, and still more in the abnormal stomach and intestinal tract, that it is absolutely necessary to *neutralize* it. For that purpose any alkali, perhaps, will suffice, but it is safer to resort to preparations of calcium than of sodium or magnesium. Soda and magnesia, when introduced into the stomach and duodenum, will find a number of acids and form laxative salts. Frequently I use carbonate of lime; not infrequently phosphate of lime. Both of these will act as antacids, but the latter preparation is to be preferred in those cases in which free phosphoric acid is deemed of importance for the purpose of facilitating pancreatic digestion.

So far as lime-water is concerned, its administration, certainly, is correct chemically. But we should not place too much reliance upon this popular remedy. We should not forget that it contains about one part of lime to eight hundred of water, and that it is necessary to swallow at least *two* ounces of the fluid in order to obtain a single grain of lime.

A further indication is, *the necessity of destroying ferments*. For that purpose most metallic preparations will do fair service. One of these, that has been extensively used, is *calomel*, and now in *small doses* frequently repeated—$\frac{1}{10}$, $\frac{1}{4}$, or $\frac{1}{2}$ a grain (0·1–0·15–0·03) every *two* or *three* hours. As to its effects as an anti-fermentative, there can be no doubt. It is very uncertain, however, as to how it produces this effect. It is possible that it acts by a portion of the drug being changed very slowly to the bichloride of mercury, which is known to be a very powerful agent in the prevention of fermentation. It is certain that one portion, at least, of the mercury is used to bind sulphide of hydrogen, which often acts in a poisonous manner. Infants will bear calomel very well, perhaps for the reason that elimination is so much more rapid in them than in adults.

Nitrate of silver, when given for the same purpose, should be

largely diluted. From $\frac{1}{40}$ to $\frac{1}{15}$ of a grain (0·0015–0·004) dissolved in a teaspoonful or tablespoonful of water, may be given every *two* or *three* hours, and not infrequently with fair result. At all events, it does not answer to use a concentrated solution. Whenever it is concentrated, it acts more as a caustic than as an astringent. This remark is especially important with regard to injections of nitrate of silver into the rectum, where it is apt to do as much harm as good. Even a mild solution—one or two grains to the ounce of water (1:500 or 250)—when injected into the rectum is apt to give rise to tenesmus and soreness about the anus; whenever it is to be given in that way, the solution should be mild and largely diluted, or the anus and its neighborhood should be washed with salt water before the injection is administered.

Bismuth acts very favorably. Moderate cases of diarrhœa will usually show its effect very soon. Doses of from $\frac{1}{2}$ to 2 or 3 grains (0.03—0.20,) given every *two* or *three* hours, will act very favorably indeed. In those cases in which the diarrhœa has lasted for a long time, and a large surface of the intestinal tract is certainly implicated, the doses of bismuth should be large in order to be certain of immediate contact of the drug with the sore surface.

A final indication is the depression of the hyperæsthesia of the general system and of the intestinal tract in particular. The effect of opium is very probably an anatomical one, and brought about in such a manner that a combination takes place with the nerve plasma. As this is so much softer and succulent in the child than in the adult, the effect is so much stronger. There have been authors who condemned the use of opium altogether, which certainly is incorrect. The doses should be small, and they may be repeated frequently. Administered in this manner, opium can be used with perfect safety both internally and in an enema. For, when the doses are small, it is possible to stop before an overdose has been given. One of the rules for giving opium is this—the child should not be waked up for the purpose of taking the medicine. Opium does not always act as a depressant, but sometimes as an excitant. This difference in the effects produced by the drug is well known. Very small doses will act as an excitant, while relatively large ones will act as a depressant. The exciting doses, will, when accumulated, also show their constipating effect, and whenever there is fear of collapse, it is safer to give $\frac{1}{200}$ of a grain (0.0003) every half-hour or hour, than to administer $\frac{1}{80}$ of a grain (0.0012) every two hours.

Alcohol.—Small and frequent doses will certainly stimulate the nervous system, digestion, and circulation, and they also stimulate the skin and increase perspiration. Alcohol, given in this manner, certainly arrests fermentation. Moreover, it takes the place of food, and will act favorably as food when no solid carbo-hydrates are tolerated by the intestinal tract. As it is absorbed in the stomach, so does it protect the intestinal tract. It has been found that, when only small quantities of milk and pure alcohol and water are given as food, the body increases in weight. But it is absolutely necessary that the alcohol or the alcoholic preparation should be pure. Fusel oil will dilate blood-vessels, produce and increase congestion, and prove dangerous. Where no good brandy or whiskey can be procured, it is better to use alcohol in substance diluted with water.

Finally, it is necessary to reduce the amount of secretion taking place from the surface of the intestinal tract. For that purpose astringents may be used, such as alum, lead, tannic acid, pernitrate of iron, and, what has already been spoken of, nitrate of silver. In all those cases in which the stomach participates in the process to any considerable extent, almost any astringent will prove ineffective. Neither alum nor lead nor tannic acid may do otherwise than irritate the stomach, and it will be necessary to depend altogether upon nitrate of silver, or better upon bismuth, for the purpose of meeting *two* indications. To fulfil several indications at the same time, it is often good practice to combine remedies.

The main indications are to neutralize acids, to reduce nervous irritability, to arrest secretion, and to change the condition of the surface of the catarrhal mucous membrane.

For that purpose, in the generality of cases, I combine bismuth, opium, and chalk according to the following formula:

137.	℞.	Bismuth subnit.,	gr. i.
		Cretæ præparat,	grs. ij.
		Pulv. doveri,	gr. ½.

This combination is suitable for a baby *ten* or *twelve* months of age, and the dose can be repeated every two hours. In all those cases in which acid is very abundant, it is necessary to increase the doses of antacids without necessarily giving large doses of opium.

Whenever it is necessary to stimulate, and alcohol alone does not meet the requirements, resort may be had to hot bathing. This is es-

pecially serviceable in those cases in which the surface is cool and the temperature of the body, measured in the rectum, is pretty high. A hot bath in which the child may be kept for *two* or *three* minutes will restore some warmth to the surface, dilate blood-vessels, reduce temperature, and act as a nervous stimulant. To relieve intestinal pain, plain warm fomentations; to relieve heat, cold applications are sufficient.

Camphor stimulates the heart and reduces temperature, and may be used internally or subcutaneously, according to the necessities in the case. For subcutaneous injections camphor may be dissolved in either oil or alcohol. The effect derived from camphor as a stimulant is not permanent, but still very much more permanent and steady than that produced by carbonate of ammonia.

The dose may be from $\frac{1}{4}$ to $\frac{1}{2}$ a grain (0.015-0.03) every hour or two, when only a moderate stimulation is required. In urgent cases it may be given in doses of from *five* to *ten* grains (0.3—0.6) in the course of an hour, and usually the effect will be favorable.

It is, however, only in cases in which real collapse is present that doses of five or ten grains will be required, and it may then be administered dissolved in alcohol, and with or without musk.

There is no remedy that will act more favorably in conditions of great debility and collapse—collapse with or without spasmodic symptoms—than *musk*. It is true it is scarce, very frequently spurious, is expensive, and must be given in larger doses than usually recommended. But in cases of collapse, doses of five to ten grains (0.3-0.6) should be given at once, and should be repeated every half-hour or hour. More than two or three such doses will not be required to yield a result.

A writer in the *Revue de Thérapeutique Méd. Chirurg.*, 1881, remarks that the treatment of intestinal catarrh in infants should be persevered in until a complete cure be obtained; the gastro-intestinal functions should be completely re-established before ceasing treatment. The proper therapeutic measures consist in the employment of bismuth and laudanum, and without this last medicament it is very difficult to have complete cure, in infantile diarrhœa. The following potion may be given, a teaspoonful at a time, in the course of twenty-four hours:

138. ℞. Bismuthi subnit., ℥ij
Tinct. opii, ♏ij
Mucilag. acaciæ, ℥iv. M.

An enema of starch should be given morning and evening. The little patient should be kept in bed. This treatment should be continued for eight days, then the doses should be diminished, but the progress of the case should receive careful attention.

DR. JOHN M. KEATING, OF PHILADELPHIA.

This author (*Medical and Surgical Reporter*, 1883,) would treat an entero-colitis as he would a common coryza, only bearing in mind that the intestinal canal in children is much more important than the nasal organs. He gives alkalies internally, as sodium-bicarbonate or ammonium bicarbonate, if the child is very weak, with a small dose of ipecac. as a stimulant to the mucous membrane, or bromide of potassium or ammonium and minute doses of paregoric if there is much paroxysmal pain. In some cases he gives the following:

139. ℞. Magnesiæ sulph., gr. iv
Vin. ipecac., gtt. xvj
Syr. rhei aromat., gtt. xl
Spts. ammoniæ aromat., gtt. xvj
Tinct. opii camph., gtt. xvj
Syr. lactucarii, f. ʒ ij
Aq. menth. virid., qs ad f. ʒ j. M.
S.—One teaspoonful every hour to a child aged six months.

But should there be much pain or mucus in the stools, the treatment will consist of castor oil. When a mother says that her child has frequent, slimy, curd-like passages, and there is pain, straining and the occasional appearance of blood, he gives

140. ℞. Ol. ricini, f. ʒiss
Glycerinæ, f. ʒ ij
Pulv. acaciæ, ʒ iss
Aq. cinnamomi, f. ʒj & f. ʒij. M.
Ft. emulsio,
S.—Tablespoonful at a dose.

The emulsion should be given every two hours, until the stools begin to change color—probably four doses will be required; then the child should be placed upon bismuth and acacia in powder, until the irritability of the bowel has entirely subsided.

In convalescence, after a severe protracted attack he gives:

141. ℞. Ferri et quiniæ citrat., gr. iv
Tinct. nucis vomicæ, gtt. j
Syrupi,
Aquæ, āā q. s. ad f. ʒj. M.
S.—Teaspoonful three times a day for a child six months old.

If the bowels have been very loose and the vomiting excessive, he gives:

142. ℞. Acidi sulphurici aromat., gtt. viij
Ext. rhei fluidi, gtt. iv
Spt. vini gallici, f. ʒ ij
Syr. acaciæ,
Aq. menthæ, āā q. s. ft. f. ℥j. M.
S.—Teaspoonful every two hours to a child six months old; give slowly with a little water.

Should the passages not be very frequent, but the vomiting be the most important symptom, he gives:

143. ℞. Hydrarg. chlor. mite, gr. ½
Ipecac (pulv.:), gr. ⅙
Pulv. acaciæ,
Sacchari lactis, āā gr. ij. M.
Ft. chart. No. IV. S.—One every hour, placed dry upon the tongue.

This is to be followed by a teaspoonful of castor oil and a drop of essence of peppermint, poured into a tea-cup of hot water and skimmed off the top, the object being to thoroughly subdivide the oil before its administration. The oil may be preceded by quarter-grain doses of hydrarg. cum creta. Should there be marked suppression of urine, and as soon as the vomiting has been controlled, he gives at intervals of two or three hours, a tablespoonful or more of toast-water with ten to fifteen drops of sweet spirits of nitre and, if the child will stand the extra stimulation, it can be made more diuretic by the addition of fifteen to twenty drops of good gin.

DR. W. W. PENNELL, OF OHIO.

This practitioner does not believe that paregoric is contra-indicated in cases where brain symptoms are present. If the case is seen early, or if there is reason to suspect the presence of any irritating substance in the bowels, he gives castor oil or glycerine. He uses the latter where there is much acidity of the gastro-intestinal tract, or if thrush is present. After cleansing the bowels he orders:

144. ℞. Tinct. opii camph., f. ʒ iij
Bismuthi subnit.,
Pepsinæ sacch., āā ʒ j
Aquæ destil., f. ℥iiss. M.
S.—One teaspoonful every three or four hours to a child one year old. The bottle should be well shaken.

DR. E. H. BARTLEY, OF NEW YORK,

Recommends the following formulæ, in the *N. Y. Medical Journal*, 1884, for *irritative* diarrhœa:

145. ℞.	Ol. ricini,	f. ʒiv	
	Bismuth. subnitratis,	ʒij	
	Magnes. carbonatis,	ʒi	
	Sacchari,	ʒij	
	Ol. anisi vel ol. menth. pip.,	♏vj.	M.

Sig.—ʒj. for a child of six months to one year.

Or we may use:

146. ℞.	Vin. pepsinæ,	f. ʒjss	
	Bismuth. subnit.,	ʒij	
	Glycerini,	ʒiv.	M.

Sig.—ʒj. at a dose.

Dr. MECRAY, of Cape May, New Jersey, highly recommends the following:

147. ℞.	Ol. ricini,	f. ʒiv	
	Tr. opii,	gtt. iv	
	Pulv. acacia,		
	Sacch. alb.,	q. s.	
	Aq. menth. pip.,	ad f. ʒij.	M.

Sig.—Dessertspoonful every three hours.

DR. R. L. MOORE, OF MINNESOTA,

Highly recommends the following:

148. ℞.	Hydrarg. cum creta.,	gr. x	
	Sacch. alb.,	ʒj.	M.

Triturate well and add:

	German tinct. bell.,	gtts. xv	
	Aquæ,	f. ʒiij.	M.

S.—Teaspoonful every hour.

DR. JAMES CRAIG, OF JERSEY CITY.

This author considers (*Archives of Pediatrics*, 1884), that the indications are to prevent nausea and vomiting, support the strength, and check diarrhœa. If nursing, no change in diet is made, but care should be taken not to nurse the child too often or too much at a time. If bottle-fed, the milk is stopped, and stale bread soaked in hot water, with a little sugar and brandy added, or Robinson's prepared barley or arrowroot, made with water and given in small quantities, answer a

good purpose. Milk is also prohibited where the child is weaned, but is gradually resumed as it improves. Where the child is weak, one teaspoonful of brandy to six or seven of water, a teaspoonful of which is occasionally given. Where a more powerful stimulant is required, carbonate of ammonia, in one or two grain doses, mixed in syrup of acacia, is used according to the age of the child. For the gastric and intestinal derangement his favorite prescription is:

149. ℞. Liq. acidi carbolici, 5 per ct., f.℥j
Bismuthi subcarb.,
Pepsini saccḥ., āā ℥j
Aquæ cinnamomi, ℥iij
Syr. aurantii cort., f.℥ij. M.
Sig.—A teaspoonful every two or three hours until relieved.

He applies over the abdomen a spice plaster, composed of the following: powdered cinnamon, cloves, nutmeg, ginger, allspice, of each ℥ij. Honey and glycerine, of each, ℥vj. White of one egg. Mix and spread on cheese cloth or fine mosquito netting. It may remain on over the region of the stomach and bowels for hours and days without blistering—it merely reddens the skin and is an excellent counter-irritant. A bandage should be applied over it to keep it in place. Change of air frequently brings about convalescence in a short time. When that cannot be had, the next best thing is to take the child out daily, for an hour or two at a time, early in the morning and late in the afternoon. While in the house, the child should be kept in a well ventilated room free from draughts.

NOTES ON REMEDIES.

Acacia in solution is both soothing and nourishing.

Acid Carbolic is recommended in the *British Medical Journal*, 1883, in half minim doses, combined with bismuth and aromatic confection in the vomiting and diarrhœa of children.

Alkalies are highly extolled by Dr. J. P. Oliver (*Boston Medical and Surgical Journal*, July, 1875,) in diarrhœal diseases of infants. The alkali should always be combined with an aromatic.

150. ℞. Potassii bicarbonatis, ℈j
Aquæ cinnamomi, f.℥ij. M.
A teaspoonful or two to a child of eighteen months, in milk or barley water.

This prescription, with a few grains of pepsin if there is atony of digestion, and sometimes a little stimulant, will cure most cases.

Argenti Nitras. In acute catarrhal diarrhœa, summer diarrhœa, and the diar-

rhœa of dentition, this salt is used by Dr. MULLER and others, in doses of gr. $\frac{1}{24}$–$\frac{1}{8}$. He says the special indications for it are: (1) Croupous deposits on the mouth and fauces; (2) peculiar redness and smoothness of the tongue; (3) irrepressible thirst. In obstinate cases of the chronic form TROUSSEAU recommends as an enema,

151. ℞. Argenti nitratis, gr. j
Aquæ, f.℥v. M.
For an enema. A portion to be used twice daily.

Arsenicum. Dr. RINGER advocates gtt. j–ij of the liquor arsenicalis in cases of children from eight to twelve years, where the motions are semi-solid, with lumps of half-digested food.

Bael. This East Indian astringent is growing in popularity in Great Britain. Dr. R. P. RITCHIE writes of it to the *Medical Times and Gazette*, 1879, that in the chronic diarrhœas of children, especially those of a dysenteric character, it seems especially valuable.

Bismuthi Salicylas has been found very useful by Dr. KILNER (*St. Thomas Hospital Reports*, 1879,) when the diarrhœa seems to be entirely dependent on the heat of the weather. He uses good-sized doses—two or three grains for a child under six months, and from three to five or more, when above that age.

Bismuthi Subnitras is commonly used in the more chronic forms. It is also of value in the acute forms where there are sour-smelling and offensive stools. Large doses are necessary.

Calcium Salicylas. See *Bismuthi Salicylas* (above). The indications and doses are the same.

Camphor, in acute diarrhœa of infants, may be given as a few drops of the tincture on sugar or in milk, every two or three hours.

Catechu is a favorite astringent with some.

152. ℞. Tinct. catechu,
Tinct. kino, āā ♏x
Syrupi, ♏xv
Aquæ cinnamomi, f.℥ij. M.
For one dose every three hours.

Carbolicum Acidum. In chronic diarrhœa, especially of the feculent variety, Dr. ELLIS has found the greatest benefit from the use of carbolic acid internally in doses of gr. $\frac{1}{4}$–$\frac{3}{4}$ in well-sweetened water, for children about two years old.

Ceanothus Americanus or *Jersey Tea* is highly recommended by Dr. S. P. HUBBARD, of Virginia (*Med. and Surg. Reporter*, 1880). A weak decoction, made in an earthen vessel, sweetened with loaf sugar or honey and used as a drink, he has found an excellent remedy in teething diarrhœa.

Chalk. Mistura cretæ, with or without opium, is highly useful in the diarrhœa of children.

**Chamomile* is highly recommended by Dr. CHRISTOPHER ELLIOTT, (*Practi-*

tioner, 1882,) in infantile diarrhœa connected with dentition, and in which the stools are many in number, green in color, or are slimy and streaked with blood and accompanied by pain and cramp. He gives ʒss–j of the infusion to a child under one year, and double the quantity to a child over that age, giving it three times a day or oftener according to the severity of the attack.

Ergota and *ergotin* are recommended in some cases, especially where the diarrhœa is without febrile action, and rather a wasting mucous discharge.

Ferri Tinctura Chloridi. In diarrhœa from the use of impure water or unripe fruit, Dr. LAWSON has found the most effective treatment gtt. ij–vj of this tincture in an appropriate vehicle, several times a day.

Gallicum Acidum, gr. j–v, dissolved in hot water, well sweetened and then allowed to cool, is very serviceable in chronic diarrhœa.

Hæmatoxylon is a favorite astringent with many.

Hydrargyri Chloridum Mite. Many practitioners commence the treatment of acute infantile diarrhœas with small doses of calomel with soda, chalk or other alkali, and perhaps a few grains of rhubarb. Quite large doses of calomel, gr. x–xxx, are undoubtedly valuable in desperate cases. In rickety, scrofulous or tuberculous children, ELLIS advises that no form of mercury be given.

Hydragyri Chloridum Corrosivum. Dr. RINGER long since recommended minute doses of corrosive sublimate for the infantile diarrhœa with very slimy stools, especially if mixed with blood and accompanied by pain or straining. Lately in this dysenteric and other chronic forms it has been urged by Dr. RUDOLPH RAVENBURG, of Washington, D. C., gr. ss–j to water Oj, of which a teaspoonful may be taken at a dose.

Ipecacuanha, in small and repeated doses, is often most useful in the acuter forms.

Krameria is a pleasant and efficient astringent.

Nux Vomica. In lienteric diarrhœa, where the food passes through the bowels almost unchanged, Dr. MULLER regards nux vomica as a specific. The child should have salt-water baths and its diet be carefully regulated.

Opium may be given by enema, with starch, where there is marked griping and tenesmus ; or by the mouth, as

153. ℞. Tincturæ opii, ♏j–ij
Potassii citratis, gr. iij–vj
Syrupi aurantii, ʒss
Aquæ cinnamomi, f. ʒij. M.

This at a dose every three or four hours.

Pepsin, and the various forms of it, are indispensable in many cases.

Rheum. When at the outset of an attack it is desirable to cleanse the bowels of offending substances, rhubarb is one of the most appropriate means. The powder or spiced syrup may be used ; or the alkaline tincture of

the German Pharmacopœia, which is especially praised in infantile diseases by some writers. It is prepared as follows :

154. ℞.	Rhei,		100	parts.
	Boracis,			
	Potassii carbonatis,	āā	10	"

To these add

Aquæ bullientis,	850	"

Set aside for fifteen minutes ; then add

Alcoholis,	100	"
Aquæ cinnamomi,	140	"

Ricini Oleum. It is excellent practice in acute cases to commence with a mild emulsion of castor oil.

Salicin is recommended by Dr. LAWSON in summer diarrhœa induced by the direct action of heat on the nervous system ; and by Dr. AITKEN in those from both this and other causes which deteriorate the tone of the system.

Salicylicum Acidum. Dr. J. M. KEATING, of Philadelphia, has recently employed with much satisfaction this drug in the acid diarrhœas of children. His formula is

155. ℞.	Acidi salicylici,	gr. ss	
	Spts. ammon. aromat.,	gtt. v	
	Aq. menth. piper.,	q. s.	M.

For one dose for a child a year old.

Sodii Benzoas. Dr. E. ULLMANN, of Vienna, (*Allg. Med. Zeit.*, Sept. 6th, 1879,) states that he had repeatedly proved the value of this substance in the summer diarrhœas of young children. The dose is ʒss–ij, in solution, divided during the day.

Tannicum Acidum is a useful astringent. Dr. ELLIS prescribes :

156. ℞.	Acidi tannici,	gr. v	
	Acidi nitrici diluti,	♏vj	
	Infusi gentianæ comp.,	f. ʒ ij.	M.

Every three or four hours, to a child of ten years.

Valeriana. Dr. L. A. DAVIDSON, of West Virginia, (*Medical and Surgical Reporter*, Nov., 1877,) commends the following as a most efficacious prescription in the ordinary diarrhœas of children :

157. ℞.	Extracti valeriani fluidi,	f. ʒss	
	Pulv. calumbæ,	℈ ij–iv	
	Syrupi rhei,	f. ℥ ss.	M.

Zinci Oxidum has been highly extolled by Drs. BRAKENRIDGE, of Edinburgh ; TYSON, of Philadelphia ; J. C. KENTON, of Glasgow, and others ; but

Dr. Ellis finds it disappointing. Its especial value is in nervous, lienteric cases. A child of six months should have gr. ij every six hours, in powder or mucilage. No sugar should be used with it. If so employed, it will be found a remedy of real and great power, capable of restoring even severe dysenteric cases, almost *in extremis*.

DIPHTHERIA.

THE PROPHYLACTIC TREATMENT.

It is the opinion of Prof. E. N. Chapman, M. D., of Brooklyn, that a decided stimulant, especially *alcohol*, taken regularly, will protect persons from the diphtheritic poison. He prescribes for those in health, who are exposed to it, the following:

158. ℞. Quinoidine,
Cinchoniæ sulphatis, āā gr. xxv
Acidi sulphurici aromatici, f. ʒij
Spiritûs frumenti, f. ℥ viij. M.

Fifteen drops to a tablespoonful, according to age, four or five times a day.

The German Prof. Klebs, from experiments to ascertain what drugs have a destructive influence on the diphtheritic process, believes that he has shown that the most potent in this direction is the *benzoate of soda*, and is inclined to think that the administration of this substance will strongly tend to prevent the establishment of the disease. He also uses it when the attack begins, ʒj–ij, to a child of five years.

In all cases of illness, when diphtheria is prevalent, it is expedient to look into the throat, as, occasionally, when there is not even ground of suspicion, the characteristic spot or layer of moldiness, like an irregular patch of white kid, will be discerned. Now is the time when one single painting with a strong solution of *nitrate of silver* may effectually destroy the parasite and rescue the patient. Twenty-four hours later, and the attempt will be vain.

In a paper read at the Medical Society of Victoria, and published in the *Australian Medical Journal*, 1880, "*On the Free Use of Salt as a Prophylactic Against Diphtheria*," Dr. Day stated that, having for many years past looked upon diphtheria in its early stage as a purely local affection, characterized by a marked tendency to take on putrefactive decomposition, he has trusted most to the free and constant

application of antiseptics; and when their employment has been adopted from the first, and has been combined with judicious alimentation, he has seldom seen blood poisoning ensue. In consequence of the great power which salt possesses in preventing the putrefactive decomposition of meat and other organic matter, Dr. DAY has often prescribed for diphtheritic patients living far away from medical aid the frequent use of a gargle composed of a tablespoonful or more of salt, dissolved in a tumbler of water; giving children who cannot gargle a teaspoonful or two to drink occasionally. During the prevalence of diphtheria, he recommends its use instead of sugar in the food of children, adults using the gargle as a prophylactic, three or four times a day.

M. HAGER, OF GERMANY.

In the *Pharm. Centralblatt*, 1882, M. Hager recommends lozenges composed after the following formula, to persons who are exposed to the contagion of diphtheria:

159. ℞. Ceræ alb., ʒ v
Colophon, ʒ i ss M.

Melt together, and then add

℞. Tolutan. balsam, ʒ ii ss
Pulv. aromat., ʒ i ss
Sach alb., ʒ v
Ac. benzoic., ʒ i ss iiss. M.

Reduce to fine powder and aromatize with

160. ℞. Ol. cinnamomi, ♏ x
Creasoti, ʒ j. M.

After the mass has cooled, divide into 100 pastilles. One of these lozenges should be very slowly masticated four or five times daily.

GENERAL TREATMENT.

PROF. J. LEWIS SMITH, M. D., NEW YORK.

The internal treatment of this author is as follows, for a child of five years:

161. ℞. Quiniæ sulphatis, ʒss
Elixir taraxaci comp., f. ʒij. M.

A teaspoonful every two to four hours.

162. ℞. Tincturæ ferri chloridi, f. ʒ ij
Potassii chloratis, ʒij
Syrupi simplicis, f. ʒ iv. M.

To be given hourly, between the previous mixture.

The tonic effect of the iron is not impaired by the chlorate of potassium, which is added to the mixture, on account of its local action on the inflamed surface.

The *citrate of iron and ammonia*, alone or in combination with carbonate of ammonia, may be given in 2-grain doses, dissolved in simple syrup, in place of the above mixture, when the inflammation of the fauces has considerably abated, or is moderate. If the patient improve, and the disease begins to abate, the intervals between the doses may be lengthened, but not discontinued.

Local Treatment.—Forcible removal of the pseudo-membrane, irritating applications, the use of a sponge or other rough instrument, for making the applications, should be *avoided* as likely to do harm. The applications should be made either with a large camel's-hair pencil, or better, for most of the mixtures employed, with the atomizer. The hand atomizer, which is cheap and of simple construction, while it carries a heavy spray from the curved tube, which is introduced over the tongue, is very useful; but the constant spray of the steam atomizer is more effectual, and is preferable in severe cases.

The following mixtures he is in the habit of using with the atomizer:

163.	℞.	Acidi salicylici,	ʒss	
		Glycerinæ,	f. ʒij	
		Aquæ calcis,	f. ʒviij.	M.
164.	℞.	Acidi carbolici,	gtt. xxxij	
		Glycerinæ,	f. ʒij	
		Aquæ calcis,	f. ʒvj.	M.
165.	℞.	Acidi carbolici,	gtt. xxxij	
		Potassii chloratis,	ʒiij	
		Glycerinæ,	f. ʒij	
		Aquæ,	f. ʒv.	M.

In many cases of diphtheritic inflammation of the fauces the spray suffices for local treatment, but the following mixture, applied by a large camel's-hair pencil, is also very effectual, immediately converting the pseudo-membrane into an inert mass, and putting a stop to all movements of the bacteria which swarm in it, as Dr. S. has observed under the microscope:

166.	℞.	Acidi carbolici,	gtt. viij	
		Liquoris ferri subsulphatis,	f. ʒij–iij	
		Glycerinæ,	f. ʒj.	M.

This may be used two or three times daily, between the spraying, or oftener without the spraying. It is not irritating (such an effect would condemn it,) but it is dreaded by most children on account of the unpleasant "puckering" which it produces.

If there is discharge from the nostrils indicating diphtheritic inflammation of the Schneiderian membrane, a little of the same mixture diluted with an equal quantity of warm water, is injected into each nostril every three to six hours. To do this, the child is placed upon its back, with the head thrown backward and the eyes covered with a towel to prevent the liquid from entering them. A small glass ear or nostril syringe, with a knob or button at the end of the nozzle, is the best form of instrument for these injections.

One-third to one-half of a teaspoonful of the diluted mixture is a sufficient quantity to employ for each nostril. This application, properly made, prevents decomposition, removes the offensive odor, and that which is of the greatest importance, prevents blood-poisoning.

In three or four days, if the case progress favorably, these remedies are employed less frequently, but they are continued until not only the pseudo-membrane has disappeared, but the inflammation also has in great part abated. When the inflammation has begun to abate, and there is no re-appearance of the exudation, a gargle or drink of chlorate of potash is given.

167. ℞. Sodii bisulphitis, ʒj–ij
Tincturæ aurantii, f. ʒ ij
Aquæ, f. ʒ x. M.

One teaspoonful every two hours. Sometimes, in place of water a bitter infusion, like that of quassia, has been employed.

The sulphites have not been found so valuable in this disease as was expected at their introduction.

THOMAS R. DRYSDALE, M. D., PHILADELPHIA.

This physician, after a wide experience in all the forms of diphtheria, is persuaded that the most valuable of all remedies is *chlorate of potash*, properly and efficiently administered. (*Medical and Surgical Reporter*, March, 1877.) He attributes its failures to the timidity with which it has been given. The formula he is in the habit of using is:

168. ℞. Pulv. potassii chloratis, ʒ ij
Syrupi limonis, f. ʒ j
Aquæ, f. ʒ iij. M.

To a child under two years old, a teaspoonful; from two to ten years old, a dessertspoonful; and over this age a tablespoonful, which is also the dose commenced with in adults; the dose being repeated every three hours, or oftener, according to the severity of the case.

All local treatment, except by the solution itself, is unnecessary, for that it has a solvent action on the membrane, has been proved by experiment; and the parts involved are so frequently bathed by swallowing it, that a true and free topical application is made every time it is administered. Taking advantage of this local action, the physician should direct the nares to be injected with it when they are affected; and in cases of croup, particularly after tracheotomy, apply it by means of the atomizer.

Another advantage is, that other remedies may be used in connection with it. For instance, when there is much spasm of the larynx, emetics may be given, and the chlorate used after them; or, when the case is decidedly asthenic, iron and quinine, stimulants and nourishment, may be administered at the same time.

This treatment has proved so successful, that when called to an ordinary case of diphtheria, before it has reached the larynx, or traveled upward toward the brain, producing convulsions, Dr. D. feels but little apprehension; for, in a large practice of many years, but few cases have been met with which have resisted it.

Dr. W. W. Carpenter asserts (in the *South. Med. Rec.*, May, 1879,) that chlorate of potash cannot be borne in sufficient quantity to cure an asthenic case of diphtheria, without causing a dangerous, if not fatal, depression of the heart. If combined with quinine or any of its alkaloids, to steady the heart's action, it can be safely borne in larger doses. In union with tinct. ferri mur. and quinia, we not only have a much more effective remedy, but a far safer one; or it may be combined with sulphurous acid, as:

169. ℞. Acidi sulphurosi, f. ℥ vj
Glycerinæ, f. ℥ iv
Sat. sol. potassii chloratis, ad f. ℥ viij. M.
From one-half to two teaspoonfuls every half hour, according to age.

Dr. James Tyson (in the Philadephia *Medical Times*, February 15th, 1879,) speaks strongly in favor of Dr. Billington's treatment of diphtheria. This is the frequently-repeated small dose of tinct. ferri chloridi, and sol. potassii chloratis, alternately, every half hour, fol-

lowing each, for two or three minutes, with a spray, from a hand atomizer, of liq. calcis and carbolic acid. The formulæ are:

170. ℞.	Tinct. ferri chloridi,		f. ʒj–iss	
	Glycerinæ,			
	Aquæ,	āā	f. ℥j.	M.
171. ℞.	Potassii chloratis,		ʒ ss–j	
	Glycerinæ,		f. ℥ss	
	Liquoris calcis,		f. ℥iss.	M.
172. ℞.	Acidi carbolici,		♏xv	
	Liquoris calcis,		f. ℥vj.	M.

For spray.

DR. ROBERT BELL, GLASGOW, SCOTLAND.

173. ℞.	Acidi carbolici,		f. ʒ ij	
	Acidi sulphurosi,		f. ʒ vj	
	Tincturæ ferri chloridi,			
	Glycerinæ,	āā	f. ℥ j.	M.

Apply to the throat with a large camel's-hair pencil, or by means of the spray apparatus, every two hours.

174. ℞.	Potassii chloratis,		ʒ iij	
	Acidi sulphurosi,		f. ʒiijss	
	Tincturæ ferri chloridi,		f. ʒiij	
	Glycerinæ,		f. ℥j	
	Aquam,		ad f. ℥ vj.	M.

A dessertspoonful every two hours.

With this medication must be combined free stimulation and plenty of nourishment, in the shape of soups, jellies, and milk, from the very outset of the disease.

DR. CARLO PAVESI, ITALY.

This writer in the (*Annali di Medicina*, August, 1876,) gives a formula which he recommends in the treatment of diphtheria. It is founded on the antizymotic properties of chloral, salicylic acid, and the sulphites. It is as follows:

175. ℞.	Chloral hydratis,			
	Acidi salicylici,			
	Glycerinæ,			
	Sodii sulphitis,	āā	ʒ iij	
	Alcoholis,		f. ʒ ij	
	Aquæ,		f. ʒ vij.	M.

The whole is put into a strong glass vessel, which is closed, and exposed to a heat of 100° to 120° Fahr. for a few minutes, until the

sulphite, salicylic acid, and chloral are completely dissolved. A homogeneous solution is produced, which is filtered through bibulous paper, and preserved in a well-closed vessel. It is an oily, limpid, colorless liquid, having the odor of its constituent parts. It is insoluble with water. On the application of proper tests, the chloral, salicylic acid, sulphite of soda, and glycerine are found to be unchanged.

Used both internally and externally, it is an energetic antiseptic, antifermentative, disinfectant, hæmostatic, and preservative, as well as a destroyer of parasitic organisms. Dr. PAVESI says that it may be used as an antiseptic, and also as a sedative, in a large number of diseases.

THOMAS HILLIER, M. D. F. R. C. P., ETC., LONDON.

176. ℞. Hydrargyri chloridi mitis, gr. iij–vj
Pulveris ipecacuanhæ compositi, gr. vj. M.
For six powders; one every two or three hours for a child.

Calomel is now almost discarded in the treatment of diphtheria. Our author is not prepared to give it up. In some of his worst cases, in which recovery occurred, this drug was the remedy. It is not to be used indiscriminately in all cases. It should be limited to children with moderate constitutions, and to cases in which the exudation is firm and thick, or causing laryngeal obstruction with sthenic symptoms. It is to be continued until the bowels are relaxed with greenish stools. At the same time, abundant fluid nourishment, and sometimes wine, is to be given.

DR. H. V. SWERINGEN, FORT WAYNE, INDIANA.

This observer believes that prompt cinchonism, followed by an alterative tonic, is the most proper and successful treatment for diphtheria. The line of treatment he pursued was as follows, for a child of six years old:

177. ℞. Quiniæ sulphatis, gr. xxxij
Acidi tannici, gr. x
Syrupi simplicis, f. ℥j
Olei menthæ piperitæ, gtt. iij. M.
A teaspoonful every three hours until cinchonism is induced.

After which (or it may be administered alternately with the above) the following is given:

178. ℞. Potassii iodidi, gr. xxxij
Potassii bromidi, ʒij
Syrupi simplicis,
Tincturæ cinchonæ compositæ, āā f.ʒj. M.
Make a solution. A teaspoonful every three hours.

Alum and ipecac., as emetics, are useful when the exudation shows a disposition to extend to the larynx, or when there is much difficulty of breathing, from the tumefaction of the fauces, or from the accumulation of the pseudo-membranous deposits.

DR. P. H. KRETSCHMAR, NEW YORK,

Also strongly recommends cinchonism which he produces in children by the frequent use of the following ointment. (*Hospital Gazette*, 1879.)

179. ℞. Quiniæ sulphatis,
Chloroformi,
Balsami Peruviani, āā ʒss
Adipis, ʒvj. M.
For frequent inunction.

DR. E. WISS, PRUSSIA,

Also holds that *quinine* is the most potent drug to prevent the infection and destroy its activity. (*Wiener Med. Zeitung*, No. 35, 1879.) Its action is increased by *muriate of ammonia*, which also acts beneficially on the catarrhal affection. With these iron is needed as a tonic. Hence Dr. Wiss' treatment is:

180. ℞. Quiniæ sulphatis, gr. v–x
Ammon. muriatis, ʒ iss
Acidi muriatici, gtt. iij
Syr. cort. aurant.,
Aquæ destillatæ, āā f. ʒ iij. M.
Dose, a teaspoonful or dessertspoonful for a child.

As soon as the fever disappears he gives from five to ten drops of the tincture of the chloride of iron three times daily, in a wineglass of sweetened water. This practice he has pursued for thirteen years with most satisfactory success.

DR. F. PEYRE PORCHER, SOUTH CAROLINA.

181. ℞. Potassii chloratis, ʒj–ij
Quiniæ sulphatis, ℈j
Tinct. ferri chloridi, f. ʒ ij
Sodii hyposulphitis, ʒj
Aquæ, f. ʒvij. M.
A teaspoonful to a dessertspoonful to persons exposed to diphtheria.

THOMAS HAWKES TANNER, M. D., F. L. S., ETC., LONDON.

182. ℞. Quiniæ sulphatis, gr. xxiv
Acidi muriatici diluti, f. ℥ij
Tincturæ ferri chloridi, f. ℥iij
Infusi calumbæ, f. ℥vj. M,
A tablespoonful, in water, thrice daily.

This preparation is also recommended by Dr. AITKEN for the treatment of diphtheria.

Dr. C. S. KILNER says of *iron*, (*Lancet*, May, 1879,) that it is one of the best remedies in the disease. His treatment is to give the tincture of the chloride in large doses, internally, with chlorate of potash, and to swab the throat with:

183. ℞. Acidi carbolici, ℥j
Acidi sulphurosi, ℥iij
Tinct. ferri chloridi,
Glycerinæ, āā f. ℥ss. M.
Use locally to the throat.

Stimulants and concentrated food from the outset.

DR. T. M. LOWNDS,

Writes to the *Lancet* (March 22d, 1879,) that for eleven years he has pursued the following treatment "with almost unbroken success:"

184. ℞. Tinct. ferri perchloridi, f. ℥ iij–iv
Liquoris ammon. acetat., f. ℥jss–ij
Potassii chloratis, ℥j–jss
Aquam, ad f. ℥viij. M.
The dose and frequency is modified according to age and severity of the disease; in the worst cases a tablespoonful every hour, during the first day or days of treatment.

He never interferes with the sloughing exudation in any way, only prescribing a gargle or wash containing half a grain of permanganate of potash in an ounce of distilled water, to be used frequently. This may be applied with a sponge or a brush, or inhaled as atomized vapor. He always tries to get one evacuation daily from the bowels, and supports the powers of life by wine, soup, milk, etc., as each case seems to demand. Lastly, he insists on perfect ventilation of the bedroom by a window opened at the top.

DR. B. RHETT, CHARLESTON, S. C.

Upon seeing a case of diphtheria, this writer (*Charleston Medical*

Journal and Review, October, 1874; January, 1876,) at once gives a moderate mercurial purgative (hydrargyri chloridi mitis, gr. x.), on the importance of which he lays especial stress. Compare Dr. HILLIER'S remarks, above.) Tinctura ferri chloridi is then administered in suitable doses, and the throat is swabbed, gargled, or atomized with the following:

185. ℞. Acidi muriatici,
Acidi carbolici, āā ♏xx
Glycerinæ, ℥j
Aquæ, ℥ vij. M.
Use frequently.

DR. ARMAND SEMPLE, OF LONDON.

This author says that in the mild cases where the fauces only are affected, some local alterative should be employed, such as a strong solution of iron, but the constitutional treatment should never be neglected, because, even in slight attacks the constitutional symptoms are often serious. Iron and quinine should, therefore, be given, and wine or brandy, and strong beef-tea be also administered. Where the disease attacks the larynx or trachea, the danger is multiplied a hundredfold, and there is little chance for the patient, except in tracheotomy, by which the false membrane is removed.

DR. EDWARD HENOCH, OF BERLIN.

The views of this great authority are not very encouraging, for he repeats now what he said in 1874, namely, that in his experience, all remedies hitherto recommended, and he has tried almost all, with the exception of sulphur preparations, are entirely useless in severe cases of the disease, and these alone should be considered, since the mild cases recover spontaneously. He therefore limits himself to describing what he considers the most rational treatment, though he does not ascribe to it any specific action on the disease. Locally he uses gargles alone, or in small children, injections of the pharyngeal and nasal cavities with a solution of the chlorate of potash (10:500), alumen aceticum (25:500) carbolic acid (½ per cent.) or equal parts of lime-water and distilled water. These remedies are employed most satisfactorily with a spray apparatus, as it can readily be forced between the teeth if the children resist. The object of this method is to remove decomposed masses as thoroughly as possible, to abolish the fœtor and

to gradually loosen and dissolve firmly adherent exudations. For this reason he recommends the method suggested by RIGAUER, of pouring four or five teaspoonfuls of cool water into the nose daily. He does not approve of penciling the affected surfaces with anything, as this only tends to excite the patient and, if done with force, may injure the mucous membrane. Such injuries must be avoided at any cost, on account of the almost unavoidable diphtheritic infection of all lesions of the mucous membrane. If the pharynx shows marked inflammatory redness and swelling, he applies an ice-bag to the throat and allows small pieces of ice to be frequently swallowed. Internally he recommends from the beginning, decoct. chinæ (5 or 10:120) with aq. chlori. (10.0–15.0), in addition to nutritious diet (milk, broths, wine,) though this is often rendered impossible by the complete anorexia of many children. If no food will be taken, he resorts to nutritious enemata (meat solution, peptone, bouillon with egg, and wine.) He strongly warns against all methods which increase the tendency to collapse already present, especially large doses of chlorate of potash (small doses are harmless, but useless), which may also give rise to dangerous intoxication and hæmoglobinuria; also large doses of quinine and salicylate of soda. Subsulphite of soda and inhalations of bromine have proved absolutely useless in his hands, as also has carbolic acid internally and subcutaneously along the hyoid bone. He considers that we are equally powerless against diphtheritic collapse. In diphtheritic croup, he considers tracheotomy the sole measure from which we can expect any results, and he therefore advises its performance in all cases that are not moribund, or do not present severe symptoms of infection.

It is of great importance not to perform the operation too late—after cyanosis, coolness of the extremities, and extreme orthopnœa are present. It is advisable to operate on the appearance of the local signs of stenosis (continuous stridor in breathing, croupy cough, retraction of the lower part of the neck and the lower ribs). There is nothing to be lost by the operation, and everything to be gained. Even the presence of pneumonia is not a contraindication. If the progress is favorable the canula may be removed, as a rule, on the sixth day after the operation. There may be considerable swelling of the mucous membrane which interferes with the removal of the canula, and under such circumstances there is always danger that a canula, which has been in the trachea for an unusually long time, may even cause ulceration, and

finally give rise to polypoid proliferation. If this has occurred, the canula may not be removed, and the child must retain it for a very long time, until we succeed in removing the proliferation of the mucous membrane, and thus the danger of stenosis. Children upon whom tracheotomy has been performed, exhibit a special tendency to infection with scarlet fever. For diphtheritic paralysis Dr. HENOCH recommends strychnia, subcutaneously, conbined with electricity.

DR. J. N. COONS, OF MISSOURI.

In the *Medical and Surgical Reporter*, 1884, this practitioner says that, given, a typical case of diphtheria of average malignity, in a child of eight or ten years of age, at an early stage of the disease—for then only is treatment of most avail—he would give, if the nervous chill has not passed, a teaspoonful of tinct. opii camph. to calm the nervous shock and quiet the aching limbs, after which he would clear the alimentary canal by a mild laxative, and at once give the following:

186. ℞. Potassii chlordi (not chloratis), ℥j
Tinct. ferri chloridi, f. ℥ij
Syrupi scillæ, f. ℥ss
Syrupi simplicis, q. s. ad. f. ℥ij.

Misce. Sig.—One teaspoonful in a little syrup or water ever three hours; to be continued throughout the disease, but at lengthened intervals, after all diphtheritic membrane shall have disappeared.

With each dose of this alterative syrup he would give (according to frequency and hardness of pulse) from two to six drops of tinct. veratri viridis, till the pulse has been reduced to normal frequency and softness, and then in lessened doses every six or eight hours, till cessation of all tendency to febrile excitation.

Should an expectorant seem called for, he would direct:

187. ℞. Tinct. sanguinariæ canad,
Tinct. ipecacuanhæ, āā f. ℥ss
Tinct. opii camphoratæ, f. ℥ss
Syrup. tolutani, q. s. ad. f. ℥ij.

Misce.—Teaspoonful as needed to loosen or quiet cough.

From the first, food of some kind, preferably milk, soup, or other liquid or soft animal food, should be given at least as often as every three hours—say after each dose of medicine. Fruits, most vegetables, and acid syrups, are forbidden. As the vital powers weaken, cream, toddy, egg-nog, and occasional two-grain doses of quinine or salicine (the last preferably in capsule, to avoid faucial irritation) serve to

bridge over the period of weakness, whilst possibly neutralizing the poison of the disease.

Local Treatment.—Believing that the systemic infection largely springs from the constant inhalation and ingestion of the putrid products of the local disease, coupled with the retention of effete matters produced by the irritative fever, he considers the local treatment quite as important as the systemic.

He adds to hot water as much acetic acid as may be borne without irritation of the external surface (from 1–8 to 1–16 part), trusting that the inhalation of the vapors ever rising from the hot fomenting cloths will stimulate secretion and prevent deposit, if the vapor do not also redissolve membrane already formed in the fauces and air passages. The fomentation may be by flannel cloths or sacks of linseed meal reaching across the front of the neck from ear to ear, and kept frequently wetted in the *hot* diluted acetic acid (or vinegar in its absence), and well covered with dry flannels to preserve the heat. Should the skin become irritated, the proportion of acetic acid must be lessened, or it must be omitted altogether from the fomenting liquid, lest we have a raw surface, forming a new nidus for the further extension of the disease. For direct application of diseased fauces, nares, etc., he has found nothing so good as a saturated solution of chemically pure acetate of lead, to which may be added, when necessary (which is rare), a non-irritant antiseptic. This solution may be best applied in spray by means of an atomizer, but a gargle is of service, and the following powder dusted upon the parts will materially assist in causing the removal of any diphtheritic deposit formed in the fauces :

188. ℞. Plumbi acetatis (C. P.) pulv.,
Pulv. gum. acaciæ, āā ʒj.

Misce. Sig.—A small quantity to be blown upon the diseased parts two or three times a day. This may be done through a roll of letter sheet.

When the larynx becomes involved, the inhalation of hot steam from a saturated solution of acetate of lead in dilute acetic acid furnishes probably as hopeful treatment as any with which we are acquainted.

Summing up.—Relieve nervous shock, clear the alimentary canal, give veratrum viride till its constitutional effect is felt in a *softening* and *slowing* of the pulse, give the iron and chloride of potassa alterative steadily throughout the disease, adding an expectorant when needed; and most important, foment assiduously for the first few days,

applying the acetate of lead freely and often to the diseased fauces. Lastly, forget not to feed liberally throughout the disease, and to stimulate and support freely by alcoholics and tonics, as the exigencies of the case call for, in the wane of the disease.

DR. A. WORTHINGTON, OF CANADA.

Dr. A. WORTHINGTON was led to use cold water in diphtheria, because he had successfully used it for twenty-seven years in all forms of scarlatina, and he says that he has not been disappointed. A cold wet cloth, large enough to cover the entire body, is wrapped around the patient, and it is covered with dry flannel; it is changed every half hour for a fresh one. In the *Canada Lancet* for June, 1883, he thus concludes his article:

1. The treatment of diphtheria must be begun with the invasion of the disease to secure any safety to the patient—not a moment's time should be lost.

2. The cold water application should be made on the first appearance of a rise in temperature, and its continuance governed by the tendency of the extremities to become cool.

3. The most careful attention should be given to the nourishment of the patient from the first.

4. Adynamic symptoms should be anticipated by the free use of stimulants and tonics, and the application of artificial heat if necessary.

DRS. J. BENZON, OF BUCCARI, AND S. KORACH, OF COLOGNE.

These gentlemen have both been using iodoform locally in diphtheria with success (*Deutsch. Med. Woch.*, 1882.) The former treated one man, two women and two girls, respectfully aged eighteen and twenty-two, and a four-year-old child; and notwithstanding the cases were all of a grave type, under the local treatment mentioned they all ran a favorable and rapid course. BUCCARI treated his cases as follows: He took a painter's brush, one ctm. wide, and dipped it into finely-powdered iodoform until the points were all colored yellow. He then depressed the back of the tongue and applied the iodoform to the diphtheritic membrane. This procedure was repeated, in the beginning of the disease, about eight times during the day and six times during the night. With the exception of ice applications to the neck, this constituted the whole of the treatment. For nearly a year all the diphtheria patients in the Cologne City Hospital were treated in this way,

cleansing injections with unmedicated water being the only local or internal medication used besides. The results were very satisfactory, for in 213 cases there was only one death.

DR. J. H. VOJE, OF FREDONIA, WISCONSIN,

Has tried this remedy successfully on a number of cases.

DR. JAMES BATES, OF PARIS, OHIO,

Also has found it very useful (*Medical and Surgical Reporter*, 1883). By these gentlemen it was also dusted or blown on to the diseased surface.

DIPHTHERITIC PARALYSIS.

DR. ARCHAMBAULT, OF PARIS.

This distinguished authority tells us that attention must first be paid to the general health, for such patients are usually in a state of profound anæmia when convalescent from a more or less intense attack of diphtheria. They are pale and feeble, and you will generally find a blowing murmur in the cervical vessels. And this anæmic condition is generally more marked in cases where paralysis follows diphtheria, so that he is in the habit of giving the muriated tincture of iron to such patients, in doses of from five to fifteen drops. In conjunction with iron, he has found the arsenical preparations of great advantage. The preparation most frequently employed in the *Hôpital des Enfants Malades*, is the liquor potassii arsenitis, or Fowler's solution, of which the dose may be carried, without difficulty and gradually, to ten or twelve drops per diem, for a child of from five to eight years of age. The two medicaments may be given conjointly at meal times, in a little wine.

The syrup of the iodide of iron and the ferruginous elixir of M. Rabuteau also answer all the indications for treatment. He also administers during the day, by dessertspoonfuls, a brandy mixture containing thirty grains of extract of quinquina (Fr. codex), and eight or ten minims of tincture of nux vomica. If the tincture induces vomiting, it may be necessary to omit it, or it may be advantageously replaced by some preparation containing sulphate of strychnia, such as the syrup of the French codex, which contains $\frac{1}{120}$ of a grain in one teaspoonful, and is easily taken and well supported by the stomach. At the same time the more generous wines may be allowed.

When the paralysis is generalized, he makes use of the continuous electric current, placing the positive pole over the cervical region and the negative at the lower part of the vertebral column, or on one of the limbs.

M. Trouvé has constructed small electric machines of six elements, which are not above the means of most families, and nothing is more simple than to instruct some one about the patient in the use of this little apparatus.

These continuous currents may be maintained for hours if but four elements are used; when six are employed the machine should not be left so long in action.

When he considers that the diaphragm is enfeebled, he makes use of electricity, so that the current will traverse that muscle; and in the same way when there is paralysis of the intrinsic muscles of the larynx. In order to act on the nerve extremities, and, consequently, on the paralysis, dry friction or massage should be made over the entire body, with the hand simply covered with a glove or with a soft woolen brush; frictions with a horse-hair glove are much too rude. The woolen glove used for the frictions may often, with advantage, be first wetted in some alcoholic solution; in such case the massage produces a sensation of cold, which is soon followed by general reaction, which much invigorates the patient.

Or a large flannel gown may be made so as to fasten about the child's neck, and he may then be subjected to a species of vapor bath, gum benzoin or juniper berries being burned on a small brazier placed so that the fumes mount under the gown; while this is going on the little patient can be vigorously rubbed through the flannel. When recovery is slow and the season permits, nothing is more apt to hasten it than a sojourn at the seaside, with sea bathing.

When paralysis of the pharynx induces pronounced dysphagia, it should receive most careful attention from the physician, particularly if tracheotomy has been performed and the wound in the throat is still open. Remembering that compact substances are most easily swallowed, thick soups and macaroni cooked in milk may be given, and drinks may be administered slowly with a spoon. If the wound in the trachea is still open, it will be necessary to occlude the orifice while the child drinks, for deglutition is easier where this is done. But the children are often completely spent by fruitless endeavors to satisfy their thirst, and also fatigued by the constant fits of coughing at each attempt to

swallow, so that they finally refuse all species of liquid, and there is great difficulty to introduce sufficient food to keep them alive. In such cases very thick soups may be given, which are at the same time an aliment and a drink. These may be thickened with the different lichens, Irish moss, etc., or with gelatine.

When the patient can swallow nothing, it becomes necessary to introduce food by means of the œsophageal tube, which is not always easy to pass into children. The soft rubber œsophageal tube, such as is made at present, should be used so as to avoid all chances of injuring the soft parts. Concurrently with these means of sustaining the system, analeptic enemata, particularly those compounded with the different peptones, are of very great benefit. Such an enema may be made up as follows:

189. ℞. Salep, gr. xxx
Thin beef soup, without salt, ℥ ivss
Yolk of egg, No. j or ij. M.

By means of an electric current passing by the larynx, deglutition has been facilitated, and the contractility of the intrinsic muscles of the larynx awakened. The paralysis of the diaphragm should be combated with perseverance, by means of the electric current, and this paralysis should receive special attention, as it is one of the direct causes of death.

Strabismus and blepharoptosis should also be treated by electricity; but here there is less urgency, as these are of little importance, and always finally disappear. The visual troubles induced by the default in accommodation are corrected by a collyrium containing eserine:

190. ℞. Sulphate of eserine, gr. v
Aquæ destil., f. ℥j. M.
A few drops in the eye, morning and evening.

Here again there is little need of therapeutic intervention, for the visual troubles are always fugacious, and disappear completely after a certain length of time.

DR. H. CRIPPS LAWRENCE, OF ENGLAND.

This author (*British Medical Journal*, 1882), has had good results from the use of the glycerols of tannin and carbolic acid.

191. ℞. Glycerinæ acidi tannici, ℥vij
Glycerinæ acidi carbol., ℥j. M.

In the application of glycerine as an absorbent, it is of practical importance that a small proportion of water should be added to it. In order to secure this, a sufficiency of glycerine should be placed in a saucer, and a throat-brush dipped in water should first be stirred into the glycerine before applying it to the throat and fauces. The combination above mentioned has been found practically the most efficient proportion for securing the necessary astringent and antiseptic results, without irritation. An application, twice or at most thrice, in the twenty-four hours, secures the utmost benefit the remedy affords. It is seldom that any additional local remedies are required, but it is wise to precede the application of the glycerols with gargling the fauces and washing out the mouth with a solution of permanganate of potash and water, and to use the sulphurous acid spray, the double advantage that follows being that the fauces are the better prepared to benefit from the glycerine, and that the safety of the practitioner is increased in the event of the patient expectorating any false membrane during the act of swabbing To further increase the safety of the medical attendant, a glass screen placed between him and the patient will afford protection, without limiting the efficiency of the procedure.

DR. DEUKER, OF RUSSIA.

This physician (*Medical Press*, 1882), who, during twenty-four years of very extensive practice in the Children's Hospital, St. Petersburg, has treated upwards of two thousand cases of diphtheria, and tried all the remedies, both external and internal, recommended in this affection, has obtained the best results from the following method, which he has employed for the last ten years. As soon as the white spots appear on the tonsils, he gives a laxative, mainly composed of senna, which produces an abundant watery evacuation. When the purgative effect has ceased, he gives cold drinks, acidulated with hydrochloric acid, and every two hours a gargle composed of lime-water and hot milk in equal parts.

DR. H. L. GETZ, OF IOWA.

This author (*Medical and Surgical Reporter*, 1882), relies upon the following plan of treatment:

Locally, internally, tincture of iron with glycerine, in the proportion of two parts of the former to one of the latter, and this mixture saturated with chlorate of potash; this should be carefully and thoroughly

applied, every six hours, to the fauces, tonsils, etc., by the physician, and never entrusted to inexperienced persons. A gargle consisting of one part of the above mixture and three parts of water should be used every two or three hours. Small pieces of ice may also be allowed to dissolve in the mouth to good advantage when not annoying the patient. *Locally*, externally, nothing, except where there is swelling of the lymphatics; then the application of liniment of ammonia.

DR. MORELL MACKENZIE, OF LONDON.

This distinguished authority says (*Medical and Surgical Reporter*, 1881,) that so far as local treatment is concerned he places his sole reliance on varnishes, *i. e.*, remedies which exclude the air from the false membrane, tolu dissolved in ether being the most useful. Dr. Dix, a Danish medical practitioner scrapes away the false membrane and cauterizes the scraped surface with solid nitrate of silver.

DR. JOHN A. LARRABEE, OF KENTUCKY.

This author (*Philadelphia Medical Times*, 1881,) lays down the following rules—muriated tincture of iron, persistently and freely given, should form the basis of treatment; its astringent property tends to prevent the formation of the membrane, while its effects upon the constitution tend to sustain the life of the patient, and thus enable him to throw off the membrane. He also recommends the free use of alcohol.

DR. JOSEPH H. WARREN, OF BOSTON.

This author (*Virginia Medical Monthly*, 1880,) has been using the following with greater success than he ever achieved with any other form of medication.

192.	℞.	Glycerinæ,	f. ʒij	
		Acid. thymic,	gr. iv–vj	
		Potass. chlorat,	ʒijss	
		Quiniæ bisulph.,	ʒ ss–j	
		Brandy, (very old)	f. ʒ vj.	M.

S.—To a child from one to two years old up to five, a teaspoonful every hour or two, according to the urgency of the disease. Increase the dose from this age upward to f. ʒ iv. Let the patient take it without any water, if possible, as by so doing, he will get the stimulating effect on the throat and thus avoid the use of anything for a gargle.

For atomizing the throat, he uses the following:

193. ℞.	Glycerinæ,	f. ℥j	
	Acid thymic,	gr. vi–x	
	Sodii borat.,	℥ iv	
	Aquæ camphoræ,	f. ℥iv	
	Aquæ picis liquidæ,	f. ℥v.	M. Filter.

S.—Atomize freely every two or three hours.

DR. J. R. BLACK, OF OHIO.

This physician considers that he has a very potent local application in the following (*Medical and Surgical Reporter*, 1880,)

194. ℞.	Glycerinæ,	f. ℥ ss	
	Tr. iodinii,	f. ℥ ss	
	Acid. salicylic,	gr. xx.	M.

It should be applied freely, with a large camel's hair brush, morning and evening, carefully covering the whole of the diphtheritic surface with it. When the disease extends up into the nasal cavities, the use of the camel's hair brush is impracticable, and he usually relies upon the use of an injection of a liquid, containing one fluid drachm of the solution of carbolic acid to seven fluid drachms of a saturated solution of chlorate of potassium.

DR. J. W. MOORE, OF COHOES, N. Y.

Dr. J. W. Moore says that in his hands the following line of treatment, which he publishes in the *Med. Annals*, 1884, has been almost uniformly successful in the cases that he has treated during the past six months, the rate of mortality being two to thirty, these two dying from fibrinous tracheo-bronchitis. After attending to the hygienic necessities as far as possible, such as putting the patient in a well-ventilated room, the air of which is both warm and moist, with the temperature between 60° and 65° (assuming that we are able to put our patient in a comfortable room, as often we have to treat them as we find them), and thin patches of false membrane presenting themselves, with other concomitant symptoms, he gently sprays the throat with a weak solution of chlorine gas, made by the action of tr. chlor. iron on potassium chlorate, slowly adding water as the chlorine is given off. He then gives, according to age, from ten to fifteen drops of the tr. of iron every three hours in a little glycerine and water; good nourishing diet, such as milk, eggs, etc. On the second day, if the disease is not checked, he gives one drop of Lugol's solution of iodine, and a half drop of carbolic acid, in a little water and glycerine, every two hours, and increases the

intervals of the iron to four or five hours. He also uses a direct application, discarding the spray, of a mixture of iodine, glycerine, and carbolic acid.

DR. ROBERT J. CULLEN, OF NEW YORK.

This author states, in the *Medical and Surgical Reporter*, 1880, that he has treated about eleven hundred cases of diphtheria, and has cured about ninety-eight per cent. His treatment consists in adding one drop of *dilute nitro-muriatic acid* to every teaspoonful of the following mixture :

195. ℞. Potassii chlorat., ℥ iij
Tinct. ferri chlor., f. ℥ iv
Aquæ,
Glycerinæ, āā f. ℥ ij. M.
S.—Teaspoonful every fifteen minutes.

DR. THOMAS GURNEY, OF ENGLAND.

The arrest of the disease and nutritious support, our author claims, in the *Lancet*, 1879, are our great aims. For this purpose he has adopted a respirator, made of the ordinary shape and size, the front being minutely perforated. Inside of the respirator, he has two or three perforated plates inserted, between which he places common tow (not cotton wool). He then drops on each of the layers of tow ten to twenty drops of a solution of carbolic acid, creasote, and glycerine. Should the patient tire of these, he uses turpentine or iodine. He places the respirator over the mouth and keeps it continually applied. He keeps two kettles of water boiling on the fire. Attached to the spouts of the kettles he has an elastic tube of an inch calibre, at the end of which is a spray-like nozzle, which he puts immediately under the mouth of the patient. By this means the disinfectant remedies are carried moist to the throat. Previous to this, he gives an active purge, which usually removes offensive stools, of effete, poisonous matter. Internally he gives aconite, in frequent small doses. At the same time, the strength is supported with milk, cream and eggs, with or without brandy, and beef tea ad libitum. As a drink, he recommends patients to take as much chlorate of potash in solution as they can without vomiting. If this is objected to, he orders lemon juice. If the system is very weak, he gives belladonna in lieu of aconite. As soon as the urgent symptoms have subsided, he orders strychnia, with or without nitro-muriatic acid. He never forgets bicarbonate of potash, on account of the tendency to rheumatism after this disease.

DR. RUDOLPH SIEFFERT,

writes to the *Chicago Medical Journal and Examiner*, 1880, that his main remedy in the treatment of this disease, is the inhalation of carbolic acid, diluted, through a sponge. The sponge is saturated with a solution of carbolic acid (the strength ranging from 1 part in 200 to 1 part in 100 of water), and then placed in a wire holder, formed so as to fit over mouth and nose. This inhaling apparatus is fastened to the patient's mouth and nostrils, so that respiration must take place through the carbolated sponge. These inhalations are repeated every two hours, each lasting about half an hour. Within twenty-four hours, the membranes become loose, and are gradually either swallowed or expectorated, and they do not reappear with the same severity. In the cases of larger children, he orders the throat to be gargled with warm chamomile (German) tea. After every application, the sponge ought to be well washed in hot water, and if there be several patients in the same family, each one ought to have its own apparatus, or at least its own sponge. To prevent the carbolic acid solution from affecting the lips, it is well to oil the lips before applying the inhaling apparatus. Besides the inhalation, he uses quinine, and, in order to keep the bowels open, the fluid extract of *rhamnus frangula*. With older children, he occasionally orders gargling with a weak solution of carbolic acid.

DR. J. A. WADDELL, OF VIRGINIA.

In the early stages this author recommends (*Virginia Medical Monthly*, 1879,) small doses of calomel and ipecac every two hours, say from one quarter to one grain of the first and one-quarter to one-sixth of a grain of the latter; this will be much more efficient if used in connection with effervescing citrate of potassium. He orders two drachms of citric acid and the same quantity of bicarbonate of potassium, dissolved in separate tumblers of water; the former may be sweetened to render the mixture palatable. A tablespoonful of each solution mixed together and in *effervescence*, should be taken every hour; and every second hour, if fever is high, from ten to twenty drops of antimonial wine, according to the age of the patient, should be added to the dose.

By the persistent use of this treatment, he has generally found that in twenty-four hours the fever will be considerably reduced, the tongue moistened, and often three-fourths of the deposit removed from the

throat. If, however, after the subsidence of the fever and the improvement of the throat, the deposit in part obstinately adheres, he discontinues the calomel and ipecac, and uses in place of them muriated tincture of iron, in ten or twenty-drop doses, *regularly continuing the effervescing preparation throughout the disease.*

If, in forty-eight hours, no improvement of the throat appears, occasional cauterization with nitrate of silver, or a strong solution of sulphate of zinc—say twenty grains to ℥j water—applied by a camel's hair brush, has almost invariably accomplished the desired effect.

DR. S. MURDOCH, OF MISSOURI.

This author states, in the *St. Louis Courier of Medicine*, that he has long since abandoned all swabs, and the use of tincture of iron, or iron in any of its forms, believing it to be one of the most mischievous remedies ever given in this disease, and he depends principally upon chlorine mixtures and supportive treatment.

DR. GASPARINI, OF ITALY.

Dr. GASPARINI (*Gazz. Med. Ital. Lomb.*, February 16, 1884,) accepts Morell Mackenzie's definition of diphtheria, and looks upon it as an acute infectious general disease, with a tendency to the production of certain local manifestations. His treatment consists in wrapping the patient in a cold wet sheet, repeating the packing three or four times a day, according to the height of the fever. Cold compresses are to be kept continually to the throat. He also uses gargles of the alkaline sulphites, carbolic acid, etc., as disinfectants, never caustics. In 1875, six cases were thus treated; all recovered, the disease lasting from five to eleven days. In 1879, seven cases recovered under the same treatment, the average duration of the disease being ten days. This treatment is well borne, and the patients like it; its antipyretic action is marked, though transitory. Stimulants are at the same time to be freely administered. The duration of the disease is not influenced; but convalescence is shortened, and the strength is more quickly recovered.

M. DELTHIL, OF FRANCE,

burns in the sick-room (*Deutsch. Med. Zeit.*, 1884,) an equal mixture of coal-tar and ol. terebinthinæ, causing the formation of thick, black vapor. The air of the room becomes impregnated with carbon in various

combinations, and the latter are said to dissolve the fatty substances which unite the constituent parts of the diphtheritic membranes. In consequence of this chemical action it is believed the membranes lose their tenacity and their adherence to the tissues, and their expectoration is easier.

He tried this method on four children, on whom, on account of laryngeal diphtheria, tracheotomy had been performed. Three of the patients died. But remembering the fatality usually attending cases of this kind, the result is, if anything, favorable. Dr. FÉRÉOL employed the same treatment on an adult, suffering from a mild type of the same disease. After each fumigation, which was very well borne by the patient, free expectoration ensued, and on the second day the membranes had become soft and were much less adherent.

DR. GEORGE A. LYNN, OF PENNSYLVANIA.

This author, in a paper read before the American Medical Association, 1884, sets forth the proper mode of administering *corrosive sublimate* in diphtheria. In order to make it thoroughly reliable and valuable, he says:

1. It must be used in the first stage of the disease.
2. It must be used in large doses frequently repeated.

The first rule is apparent, he thinks, from the fact that the greatest value of the medicine is in the prevention of the formation of the poison in the membrane, and it should not be put off until all other remedies have been tried and failed. The effect of the remedy, given early, is to reduce the temperature, relieve pain in the head, back and limbs, unlock the secretions, lessen the soreness in the throat, in time to relieve the nausea and vomiting. He advises as the best mode of administering it that a solution be made of one grain of the bichloride to one drachm of alcohol. He recommends as a vehicle for the bichloride, an elixir of pepsin or of pepsin and bismuth. To a child of three years, he gives from $\frac{1}{16}$ to $\frac{1}{12}$ grain according as the disease is mild or malignant, repeating the dose every three hours. To an adult, $\frac{1}{10}$ to $\frac{1}{8}$ grain may be given at the same intervals. He states that in mild cases convalescence is generally established by the end of the third day, when the treatment is commenced early and that it is seldom necessary to continue it more than five days. When this treatment is instituted early, nothing else is found necessary. In cases where it is not commenced until late in the

course of the disease, it may be necessary to give tonics and stimulants, as tincture of iron and brandy. In some cases membrane has already formed before the physician is called to see the case or before the remedy has had time to take effect; and then, if it affect the larynx or trachea, a new danger arises from the mechanical obstruction for which the corrosive chloride gives no relief. In many cases of croup, simple or diphtheritic, dyspnœa is due not to the mechanical obstruction produced by the membrane, but to a spasmodic condition of the glottis. Dr. LYNN thinks that a remedy which will relieve this spasm, will obviate the necessity of resorting to tracheotomy in nearly all cases. He believes that we have such a remedy in the *chloride of gold*. He directs the druggist to dissolve the contents of a fifteen-grain bottle as it comes from the manufacturer, in fifteen drachms of distilled water and to dispense from that solution. The dose may be $\frac{1}{30}$–$\frac{1}{20}$ grain and may be administered easily in water, as it is almost tasteless. It should be given from a glass or a teacup, as the preparation acts readily upon metals, especially upon silver.

DR. W. B. POWELL, OF LOUISIANA,

uses the treatment recommended by Dr. MAYNARD, and in addition (*Medical and Surgical Reporter*, 1881), uses the muriated tincture of iron and chlorate of potassium, both externally and internally, as follows:

196. ℞. Tinct. ferri mur., f.℥ij
Potassii chlorat., ℥j
Aquæ puræ, f.℥iv. M.
S.—One teaspoonful according to age of patient every three hours.

Many little ones are unable to gargle or rinse their throats, hence, when the preparation is swallowed, it comes directly into contact with the diseased membrane, both in the front as well as in the back of the throat. Before using the solution, he orders the inhalation of equal parts of good vinegar and *hot* water (a common vessel, with a spout, where a good inhaler cannot be had, will do); this vapor softens the membranes. He also gives quinine, in appropriate doses.

M. DE BLEYNIE, OF FRANCE,

strongly advocates the "*ice*" treatment of diphtheria (*Medical and Surgical Reporter*, 1881). The following mode of administration is recommended: 1. Introduce into the mouth of the little patient, a small

fragment of ice every ten minutes, without any interruption whether the child is awake or sleeping. 2. Do not cease giving ice until the false membranes have entirely disappeared; this happens from the second to the eighth day. 3. Keep good watch over the throat, and if the membranes reappear, recommence the treatment. 4. From the beginning give wine and good nourishing food.

DR. H. NYE, OF PENNSYLVANIA.

When first called to see a patient, this writer (*Medical and Surgical Reporter*, 1881,) directs that the bowels be properly evacuated. After the bowels are evacuated, or before, if the case is urgent, or the general indications do not forbid, he prescribes a sedative, diuretic and diaphoretic, in the form of the original Dover's powder, or as follows:

197. ℞. Pulv. ipecac, ℈ss
Potass. nit., ʒj. M.
Ft. pulv. No. x.
S.—One every two or three hours.

Or a stimulating diuretic and diaphoretic, in the form of hot water, whisky and sweet spirits of nitre, flavored to suit the taste, and duly proportioned to meet the indications. Give it hot, sweet and strong enough to slightly inebriate, and it will rarely fail to produce profuse diuresis and diaphoresis. He applies freely to the parts covered with false membrane, pure carbolic acid liquefied by heat. He urges us not to be afraid to use carbolic acid *in its purity*, for it never burns deep, and the pain from its application does not last long. For internal medication he gives:

198. ℞. Potass. chlor., ʒj
Tr. ferri mur., f. ʒss
Alcohol, f. ʒj
Syr. simpl., q. s. ad f. ʒiv. M.
S.—Teaspoonful every two or three hours in a little water.

DR. PERCIVALL, OF MARYLAND.

This author (*Medical and Surgical Society of Baltimore*, 1881), prefers nitrate of silver for local use (ʒj to water ʒj). As prophylactics he uses the best of food and brandy. Dr. Erich (*Ibid.*) thinks that when we use nitrate of silver, the struggling of the child does as much harm as the medicine does good. He has ceased to dread the disease since he commenced the following treatment:

199. ℞.	Quiniæ sulph.,	gr. viij	
	Tinct. ferri chlor.,	f. ʒj	
	Syr. simpl.,	f. ℥iv.	M.

S.—Teaspoonful every hour, day and night.

When the disease is in an advanced stage, he alternates this mixture with a solution of benzoic acid, which seems to relieve the constitutional symptoms. Dr. MORRIS (*Ibid.*) has dispensed with the use of iron, quinine, and local applications, and in their place uses ice, food and lemon juice freely, with which he has had better success than formerly.

DR. THOMAS BARLING, OF MICHIGAN.

This author describes, in the *Michigan Medical News*, 1881, his treatment of diphtheria as follows: He attends to four points. 1. Hygiene; 2. general health; 3. the throat; 4. counter-irritation.

1. He insists on great cleanliness of person and surroundings; a moist atmosphere, easily obtained by mopping the floor and keeping a milk-pan of water on the stove; and a disinfectant, produced by half filling an old milk-can with moist earth, placing it under the stove, and putting into the moist earth fifty or sixty matches (generating ozone) and thirty or forty drops of carbolic acid, renewed three or four times a day.

2. For general symptoms, such as high pulse, pain in back, dry skin, increased heat, general uneasiness and glandular throat swelling, he gives one dose of calomel, five to twenty or thirty grains, followed in about six hours by a dose of castor oil.

3. For the throat he orders:

200. ℞.	Acid tart.,	gr. iij	
	Potass. chlorat.,	gr. iij	
	Aquæ,	f. ℥ ij.	M.

He orders one teaspoonful to be mixed with two teaspoonfuls of the coldest water that can be had; two teaspoonfuls are to be used as a gargle, and the remainder swallowed. This is to be repeated every twenty or thirty minutes until the urgent symptoms subside. He usually finds the urgent symptoms relieved in twenty-four hours, when he gives a gargle composed of

201. ℞.	Capsici,	gr. x
	Sodii chlorid.,	gr. xxx
	Aquæ,	½ teacup.

To be used freely, and if the tonsils remain enlarged and flabby, finish off with two or three applications of a strong solution of nitrate of silver, three or four grains to the drachm, applied with a feather.

4. Counter-irritation. He folds a handkerchief so that it will lie well into the throat; he then wets it in hot water, so hot as almost to scald, and sprinkling it with a teaspoonful or two of kerosene, places it quickly on the throat and covers with a dry cloth. This may want renewing three or four times, at intervals of six or eight hours. When blistering occurs, he continues the process, but puts a little sweet cream on the wet cloth, instead of kerosene.

DR. J. R. PAGE, OF BALTIMORE.

This author (*Medical Record*, 1881,) strongly recommends the topical use of fresh lemon juice as a most efficient means for the removal of membrane from the throat and tonsils. In his hands (and he has heard several of his professional brethren say the same) it has proved by far the best agent he has yet tried for the purpose. He applies the juice of the lemon, by means of a camel's hair probang, to the affected parts, every two or three hours.

DR. BLOCH, OF FRANCE.

In *La France Médicale*, 1880, this author states that he has long employed as his principal treatment in diphtheritic angina, dry cubeb pepper, applied to the throat by means of a brush, and has obtained from it excellent results. He orders the application to be made every hour, with the administration of liquid food, wine, bark, etc. The false membranes are detached and not reproduced. The application causes retching—sometimes vomiting.

These contractions of the pharynx are probably one of the elements of success. The absorption of the cubebs which the patients swallow also acts; this remedy has long been administered internally in membranous angina, and with satisfactory results. Lastly, the topical substitutive action has an important part in the happy effect of this treatment. It is easily used, and parents can themselves apply it to their children's throats. In catarrhal and pultaceous angina the same treatment succeeds marvelously—much better than alum, chlorate of potash, borax, tannin, etc.

MERCY HOSPITAL, CHICAGO.

In this institution (*Medical and Surgical Reporter*, 1880,) diphtheria is treated as a general disease, with more or less intense local manifestations. The indications are for supporting measures for the general constitution, with treatment for such local symptoms as may arise. Good alimentation by soft articles of food is directed. The blood poisoning is treated with an antiseptic solution containing the chlorate of potash and hydrochloric acid, which latter also increases the plasticity of the blood. It also, in the act of swallowing it, produces a local astringent and antiseptic effect upon the mucous membrane of the fauces. To this solution the tincture of belladonna is added, because of its known power to produce contraction of the arterioles of the mouth and pharynx, and so possibly lessen the amount of exudation. This is administered in frequent small doses, to obtain its maximum local effect. After the exfoliation of the membranes begins it is discontinued, and a combination of the tincture of iron and chlorate of potash is substituted. When the cervical glands become swollen, the following infusion is made:

			Gms. or c.c.	
202.	℞.	Aconiti foliarum,	32.00	
		Ammonii chloridi,	16.00	
		Aquæ bullientis,	256.00.	M.

Flannel cloths are wet with this hot solution and applied to the neck. This is covered with another dry cloth, so as to retain the heat as long as possible. This has also been very efficacious in relieving acute tonsillitis and other similar inflammations in the cervical region. A stimulating liniment is sometimes used in its stead.

M. CREQUY, OF FRANCE.

This author (*La France Médicale*, 1880,) commences his treatment by removing the false membrane with forceps; he endeavors, by a twisting movement, to remove the membrane, without breaking it, in as large a piece as possible; he then, with a sponge, dabs the denuded mucous surface with a solution of tannin.

DR. EDWIN BURD, OF IOWA.

This physician highly recommends hyposulphite of soda. His treatment is as follows:

203. ℞. Sodæ hyposulphis, ℈viij
Quiniæ sulphatis, ʒss
Spiritus frumenti, f.ʒiv. M.
Sig.—For a child five years of age, one teaspoonful every four hours, day and night.

204. ℞. Potassæ chloratis, ʒij
Tr. ferri chloridi, f.ʒij
Syr. simplicis, f.ʒiv. M.
Sig.—One teaspoonful every four hours, day and night.

Insufflations of sulphur to be used several times a day. Food is urged upon the little patients in as large quantities as can be digested.

In all cases where the above treatment has been strictly carried out from the start, the result has been surprising. The spread of the exudation is at once arrested, and prostration does not ensue. The fetor of the breath also soon leaves, and the patient soon becomes bright and cheerful. If applied as soon as the first signs of exudation appear, the whole process seems to end right here, and in a few days the patient is well, with no unpleasant sequelæ.

M. PERATÉ, OF FRANCE.

M. PERATÉ has, according to *Bulletin de Thérapeutique*, 1880, for the last two years used carbolized camphor for the treatment of diphtheria. He paints the surface with a pencil dipped in the following mixture: Carbolic acid, 9 grams; camphor, 25 grams; alcohol, 1 gram, diluted with equal parts of the oil of sweet almonds. The paintings are made every two hours in the day, and every three hours in the evening; then, after some days, they are divided by periods of three, four, or five hours, according to the improvement of the patient. These paintings are made over the whole extent of the false membranes, and with troublesome children the pencil is plunged as deeply as possible to the bottom of the throat, being of course, previously drained. The mixture has an extremely disagreeable taste, to which, however, the patient soon becomes accustomed. M. PERATÉ has been very successful with this plan of treatment.

DR. G. K. SMITH, OF NEW YORK.

This author describes (*Proceedings Medical Society of the County of Kings*, 1881,) his process of using *electricity* in this disease as follows:

He places the feet of the patient in a bath of water as hot as it can

be borne with comfort, and puts in that water one, two or three tablespoonfuls of saleratus. He then takes a glass of cold water and puts some saleratus in it, and with this solution wets the electrode which is to be applied to the throat. The negative pole of the battery is put into the bath in which the feet are placed. The positive is to be covered with cotton and used in the throat, on the tongue, and in the nose if it be needed there. Of course the sponge handles or ordinary electrodes cannot be used in these localities; but a very convenient one for the mouth and throat is made by covering the blade of a dinner knife with a thin layer of cotton, which is to be soaked with the solution of saleratus. The cotton also serves to keep the soft parts of the mouth and throat from direct contact with the metal, which otherwise would cause pain. The mouth should be kept open, so that the teeth will not touch the electrode. A convenient electrode for the nose is made by winding a thin layer of cotton on a wire.

Thus prepared, the patient is seated in a chair, if able to sit up. The feet are placed in the bath, and the patient holds in his lap a basin to catch the saliva as it flows from the mouth, or as he has occasion to spit it out. The physician should be careful not to sit in front of the patient, for fear that the patient will cough and blow his poisonous secretions in his face. Sitting near the right side of the patient, he dips the electrode into the saleratus water to wet the cotton; then placing it on the tongue, he holds the knife by its metallic handle in the left hand, while he lays the right hand very gently on the sponge of the positive electrode. The current will now pass through the operator, and he can regulate the power of the current to the ability of the patient to bear it without pain. If he wants a stronger current, he can grasp the sponge a little tighter. As soon as the patient becomes accustomed to the current on the tongue, the operator may pass it (the electrode) gently up the side of either tonsil. Watching a good opportunity, he can now pass it back to the posterior wall of the pharynx, and even down to the epiglottis. This last position is likely to make the patient cough, and will, in some instances, make him vomit. In either case mucus in large quantities will be thrown out, and it will become necessary to remove the electrode; but before this is done the current should be broken by raising the right hand from the sponge electrode. The cotton on the electrode should be secured by winding a little thread around it, and the operator should be careful not to let

the electrode touch the teeth, as that will cause pain. If the current passing through the operator be too weak, he may bring the positive sponge up and touch the handle of the knife. The electrode must be removed occasionally, to give the patient a chance to breathe, to spit, etc. It is not necessary to use a strong current. The electrode for the nose can often be passed back as far as the posterior wall of the pharynx.

Along with other remedies to support the system, electricity will prove useful, as it stimulates the secretions.

PROFESSOR VIDAL, OF PARIS.

This author employs the following in diphtheria, and claims for it an almost specific action:

205. ℞. Acid. tartaric, ℥ijss
Glycerinæ, f. ℥ss
Aq. menth. pip., f. ℥vij. M.

A brush, dipped into this solution, is made to touch, every three hours, the diphtheritic patches, which soon reduces them to a pulpy liquid mass, which is afterwards easily removed. In the intervals of the application of the tartaric acid, the false membranes are touched with citron juice.

TRACHEOTOMY IN DIPHTHERIA.

PROFESSOR BUCHANAN, OF GLASGOW.

This author considers (*Proceedings International Medical Congress*, 1881,) that tracheotomy is justifiable in diphtheria as well as in croup, but only in the sthenic or simply suffocative form. The type and stage of the disease demanding tracheotomy was best recognized by observation of the naked chest. The operation should be performed with the utmost deliberation, and the higher up the trachea the better. In the after-treatment all medicine should be abandoned, and reliance placed solely on nourishing food, with copious supply of fresh air, at a proper temperature, the moisture being secured by a porous sponge, kept moist and hot, or a little loose gauze placed over the mouth of the tube, which should be kept scrupulously clean and clear.

DR. E. E. MONTGOMERY, OF PHILADELPHIA.

In operating, this author (*Med. and Surg. Reporter*, 1884,) gives chloroform, and avoids hemorrhage by transfixing a fold of the skin,

held by himself and assistant, making an incision one inch long, completing the dissection to the trachea by the forceps and grooved director. After opening the trachea care is observed to remove all membrane previous to insertion of canula. After treatment consists in attention to tube, keeping several thicknesses of tarletan wet with hot carbolized water over it. The temperature of the room is maintained at between 75° and 80° F., and stimulants and good food given, together with quinia, tincturæ ferri chlorid. and corrosive sublimate—the latter in frequently repeated doses. The attempt is made to dispense with the tube from the fifth to the eighth day, but it should not be removed until respiration *per vias naturales* is fully established. He formulates the following conclusions:

1. That tracheotomy is justifiable in diphtheria as well as in croup.

2. That it should be performed in croup when it is evident that drugs do not control the progress of the disease, particularly when there is depression of the lower end of the sternum during inspiration; in diphtheria, with the advent of suffocating symptoms.

3. That in the performance of the operation, the knife should only be used to incise the skin and trachea, the intervening tissue being torn by director and forceps.

4. That the subsequent use of proper drugs will promote a favorable result.

THE TREATMENT OF THE PARALYSIS.

SIR JOHN ROSE CORMAC, M. D., PARIS.

In an article on this form of paralysis, in the *Edinburgh Medical Journal*, Aug., 1876, this writer observes that iron is particularly indicated, as the patients are always anæmic. There are few cases in which its administration does not prove itself in an obvious manner to be useful in a high degree. Sometimes it is only borne in very small doses.

Nux vomica, either in the form of extract or *strychnia*, taken daily, with some ordinary combination of laxatives, such as the compound rhubarb pill, ought to constitute a part of the treatment in nearly every case. The dose ought to be moderate, for large doses prove too exciting to the nervous system, and so tend to exhaust rather than invigorate its flagging powers. From $\frac{1}{2}$ a grain to 2 grains of the extract once a day, with or without the occasional or constant addition of from 5 to 10 drops

of the liquor strychniæ (B. Ph.,) two or three times a day, are suitable doses.

Local treatment is of the most importance with a view to direct toward the wasted and wasting muscles a greater supply of blood, and thereby improve their nutrition. Occasional *blisters* act very beneficially in this way; but they must not be relied on to the exclusion of the constant use of stimulating pastes or liniments. No local stimulant is more efficacious, or better adapted for continuous use, than a *ginger and mustard paste*. The object of using the paste is to maintain a warm glow in the skin without vesicating it. The potency of the paste must therefore be proportioned to the susceptibility of the skin. In some excitable patients who cannot bear long-continued counter-irritation of the skin, gentle kneading or *massage* of the paralyzed muscles, three or four times in the twenty-four hours, will be found useful as a means of directing a supply of blood to them. In such cases, after each kneading, a moderately stimulating liniment containing a small quantity of laudanum may be applied with great benefit. The laudanum prevents an uneasy, bruised feeling, which is often complained of after the kneading, and in irritable subjects is apt to induce restlessness and insomnia.

Galvanic excitement of contraction in the paralyzed muscles is often decidedly useful; but it is a measure which requires to be employed with moderation, and at intervals of about twenty-four hours. If resorted to too early, or too freely, it exhausts the nervous power of the affected muscles.

For the paralysis following diphtheria, the following formula (recommended by Prof. METCALFE, of New York,) is useful:

206. ℞. Strychniæ, gr. j
Acidi nitrici diluti, f.℥j
Aquæ, f.℥vij. M.

From three to five drops, in a dessertspoonful of water, are to be given three times daily to a child of three years.

The anæmic state which succeeds diphtheria is to be remedied by the administration of iron for several weeks.

NOTES ON REMEDIES.

INTERNAL REMEDIES.

Acid Sulphurous is highly praised by Dr. W. W. CARPENTER, of California (*Medical Herald*, 1880).

207. ℞. Acidi sulphurosi,
Aquæ puræ, āā ℥j
Glycerinæ, f.℥vj. M.
S.—From one-half teaspoonful to a dessertspoonful, according to age, every half hour.

Seldom is anything beyond this required. But, if the case is very malignant, the acid can be combined with sulphur, or a saturated solution of chlorate of potash can take the place of the water in the above formula.

Alcohol, according to Dr. E. N. Chapman, of Brooklyn, "neutralizes the diphtheritic poison, sets free the nerves of animal life, subdues the fever and inflammation, destroys the pabulum that sustains the membrane, cuts short the disease, conquers its sequelæ, and shields the other members of the family from an attack." It is also highly recommended by Dr. F. C. Roberts, of Fort Madison, Iowa, (*Gaillard's Medical Journal*, 1881,) who orders

208. ℞. Potassii chloratis, ℥ss
Alcohol,
Aquæ rosæ, āā f. ℥ij. M.
S.—To be used as a gargle every half hour.

Ammonii Murias. Dr. W. W. Oglesby, of Oregon, has had very favorable results with this agent. He gives:

209. ℞. Ammonii muriat.,
Pulv. acaciæ,
Sacch. alb., āā ℥ij
Aquæ font., f. ℥iv. M.
A teaspoonful every two hours.

When the depression is marked, he adds alcoholic stimulants; and for a gargle, uses chlorine water.

Apomorphia, in the dose of gr. $\frac{1}{4}$, by the mouth, or gr. $\frac{1}{15}$, hypodermically, is a certain, rapid, and useful emetic in diphtheria.

Aqua Chlorinii has been found a valuable internal remedy, by Dr. J. S. Benson. (*Canada Lancet*, January, 1876.) He gives it in doses of a teaspoonful or a dessertspoonful, to children, every three hours. In all cases, it should be given without any addition of water.

Bromine is strongly recommended by Dr. Schiltz, (*Pharm. Central.*, 1884), in the treatment of diphtheria. One form in which he uses it is as a solution prepared thus: Chlorine water, 30 parts; distilled water, 150 parts; and bromide of potassium, 3 parts. The bromine, separated by the chlorine from the bromide of potassium, remains dissolved in an excess of the latter, like iodine in potassium iodide. The chlorine water of the German Pharmacopœia is not so strong as that of the British Pharmacopœia.

Carbolicum Acidum, gtt. j, in solution every hour, with steam inhalations, is a

plan advocated by Dr. F. A. McEwen. (*Practitioner*, December, 1878.)

Chloral Hydras. Dr. Farrini, in Tunis, as well as several Italian physicians, have used with much success, in diphtheria, a solution of chloral in glycerine.

210. ℞. Chloral hydratis, gr. xxx–xl
Glycerinæ, ℥iv–v. M.
The dose is varied according to the age, and may be given in water, to the taste.

Dr. Rokitansky paints the throat with a fifty per cent. solution.

Cubeba. In the early stages of the affection, M. Trideau recommends cubebs in enormous doses—℥ ij to a child of one year, ℥iss to an adult, daily. Other observers have spoken well of this treatment. (*London Med. Record*, July, 1877.)

Cupri Sulphas ranks, according to Dr. W. Squire, with alum as one of the best and most effectual emetics in diphtheria. He directs:

211. ℞. Cupri sulphatis, gr. v
Aquæ, f. ℥j. M.
A teaspoonful at a time, to young children.

**Ferri Chloridi Tinctura* is much employed in diphtheria. It should be commenced on the first day of the illness, or as soon as the patient is seen, and continued until the tongue becomes red and the throat improves. When deposit has already taken place, the good effects of the treatment will be shown, not by any alteration in the size of the patch, but by a diminution in the accompanying secretion, and by improvement of the general symptoms. The iron treatment, as carried out by Dr. Wm. Yeats, (*Edinburgh Medical Journal*, July, 1876,) is as follows: As soon as a case came under his notice, he prescribed, for adults, 10-drop doses of the strong liq. ferri perchloridi, with 10 to 15-grain doses of chlorate of potash, to be taken in a wineglassful of water, every two hours, until decided improvement was evident, when the interval was prolonged. The dose was modified for children, of course. Vomiting was usually set up by the first two or three doses, but the patient, being warned of this, was instructed to persevere, and afterward there was no trouble in this way. Constipation was rarely complained of, and when it did happen, a little glycerine added to each dose obviated the difficulty. The local treatment was in the following form: Liq. ferri perchloridi and glycerine, in equal parts, which was brushed over the exudations daily. The glycerine helps to dissolve the slough, and the iron hardens the subjacent surface, and considerably modifies further exudation.

Guaiacum. The following formula has been recommended:

212. ℞. Tincturæ guaiaci ammoniatæ, f. ℥ ss–v
Tincturæ cinchonæ compositæ, f. ℥ss
Potassii chloratis, ℈ iv
Mellis, q. s.
Aquæ, ad f. ℥ viij. M.

From a teaspoonful to a tablespoonful, from one to five hours, or thrice daily, according to the severity of the case.

Guaiacum, as a gargle, in all varieties of *sore throat*, *hoarseness*, etc., is a remedy of ancient and acknowledged repute.

Hydrargyrum Chloridum Mite, Dr. Duer, of Philadelphia, (*American Supplement to Obstetrical Journal of Great Britain and Ireland*, July, 1873,) highly extols the efficacy of small doses of calomel and large doses of the bicarbonate of soda, and the free use of nutritious food and brandy. He states that he has treated a large number of cases, of all grades of severity, by this plan, with satisfactory results.

Dr. P. F. Whitehead combines the calomel with quinine and iron :

213. ℞. Hydrargyri chloridi mitis, gr. vj
Sodii bicarbonatis, ℥ j
Ferri redacti,
Quiniæ sulphatis, āā gr. xxiv.

Enclose in twelve capsules. One every two hours.

Under this treatment, he has repeatedly seen the pseudo-membrane disappear, and upon the cessation of the mercury and soda, return, and again disappear when the mercury and soda were resumed. The mercury and soda should be continued until *after* all signs of the pseudo-membrane have disappeared. There need be no apprehension of ptyalism. The excess of the alkali prevents it. (*Trans. Mississippi Med. Soc.*, 1878.)

Hydrargyrum Chloridum Corrosivum is highly lauded by Dr. Madison Reece, in the *Journal of the American Medical Association*, 1883. He dissolves one grain of bichloride in four ounces of rain-water; if the patient is old enough to gargle and rinse the mouth and throat, he is to do so every two hours, and immediately afterwards to take a teaspoonful internally. If the disease be severe, it should be given this way every hour. The above dose is calculated for a child five years of age. It should be continued in smaller and less frequent doses for a week or longer. (See also Dr. Pepper's remarks under the head of croup.) Dr. Hanks reports to the New York Obstetrical Society, 1884, that he has for two years been employing minute doses of corrosive sublimate internally in the treatment of diphtheria in children, and believes that he has obtained better results thereby than by the use of any other medicine.

Hydrargyrum Cyanuretum. Dr. A. Erichsen (*St. Petersburg Med. Woch.*, April 14th, 1877,) on the strength of twenty-five cases in which he tried it. strongly recommends minute doses of cyanide of mercury (gr. $\frac{1}{40}$–$\frac{1}{20}$) in diphtheria. He believes in the efficacy of mercury abridging the duration of the diphtheritic process, while he knows of no other preparation

except this which does not quickly disturb digestion and nutrition. Given in small doses, it scarcely disturbs the alimentary canal at all, even when continued for a long time. It is highly praised by Dr. SELLDEN (*Jahrb. f. Kindhlkde*, 1884.) He uses a solution of $\frac{1}{60}$ grain in three ounces of water, of which he gives two teaspoonfuls hourly, day and night.

Papayotin. SCHAEFFER (*Berlin. Klin. Woch.*, 1883,) has treated forty-seven cases of diphtheria with applications of a five per cent. solution of papayotin, and in almost all of them there was a rapid disappearance of the false membrane, and simultaneous decline of the fever. The applications should be carefully made, every ten or fifteen minutes. It is very expensive.

Potassium Bichromas is highly spoken of, gr. $\frac{1}{10}$–$\frac{1}{8}$ being given in water every half hour till vomiting is caused, when it is to be continued every two hours.

Potassium Chloras is the old and tried stand-by in diphtheria. It must be given in large and frequent doses.

Potassæ Liquor has proved itself of the utmost value in many severe cases. It may be given, gtt. xx, every two or three hours, as long as any membrane is present.

Quiniæ Sulphas has been advocated.

Salicylicum Acidum is of doubtful utility.

Sodii Benzoas. Prof. KLEBS, of Prague, (*Der Prak. Arzt.*, Jan., 1879,) praises this as the best of antiseptics and an antidote to the diphtheritic poison. He gives to adults as much as ℥ss daily, dissolved with an equal amount of sugar in mint-water. Others have also spoken well of it in smaller doses, ʒj–ij daily.

Sodium Chloridum has been used by Dr. G. F. STEWART, of Tennessee, in three well-marked cases, with the happiest results.

Sodii Salicylas is recommended by Dr. C. R. ILLINGWORTH, (*Lancet*, 1884). To an adult he gives from five to ten grains with twenty minims of the aromatic spirits of ammonia every two hours. If the pulse should be feeble and rapid he adds five minim doses of digitalis, and if there should be any delirium, ten-grain doses of bromide of potassium.

Sulphites and *Sulpho-Carbolates of Sodium*, etc., have been at times extravagantly praised, and again wholly condemned. In some epidemics they certainly have been efficacious.

**Stimulants.* Dr. W. SQUIRE, of London, lays down the rule, the less the quantity of nourishment the patient is able to take, the greater must be the dependence on the stimulant. The youngest children may require a teaspoonful of brandy every two hours ; a child of three years of age, two teaspoonfuls. It may be given diluted in any way, very small quantities at a time, frequently repeated. Older children take it well mixed with ice or soda water. Champagne is often a good substitute for brandy.

Thymol. The following formula has proved very efficacious in the hands of Dr. WARREN, (*Le Progrès Medicale*, 1882).

214. ℞. Thymol, gr. ivss–vjss
Potass. chlorat., ℥ijss
Quiniæ bisulph., ℥ ss–j
Spts. vini gallici, f. ℥viijss
Glycerinæ, f. ℥ij. M.

For children from two to five years of age, a dessertspoonful may be given every hour, or every second hour.

Turpentine is highly recommended by German clinicians, (*Journal de Medicine de Paris*, 1884.) The dose for children is a coffee-spoonful morning and evening. It may be given to children directly after a drink of warm milk, or it may be mixed with the milk and then taken. It has been found to act with great rapidity, since within half an hour a bright red rim can be observed around the diphtheritic exudate, which is soon cast off.

LOCAL APPLICATIONS.

**Acid Hydrofluoric* by inhalation is recommended by Henri Bergeron, of France. He uses ¼ of a drachm for every 1⅓ cubic yard which the apartment contains, evaporated in the space of three hours. He claims that they never do harm, that all whom he submitted to this treatment for forty-eight hours were cured, and that it acts as a prophylactic for the attendants. The acid is allowed to slowly evaporate from a leaden vessel.

Alcohol by inhalation is recommended by Dr. C. T. Melsheimer, of Indiana, in what he calls croupal diphtheria.

Argenti Nitras. Dr. W. Squire, of London, recommends in diphtheria, when the whole of the false membrane is visible, and its margins within reach, to apply to the patch, and to the surrounding turgid mucous membrane, a solution of the nitrate (one part to three of distilled water). When there is much redness and pain, a weaker solution (one part to eight or twelve of distilled water), penciled over the whole surface, tends to prevent further exudation and affords relief. The solid nitrate is objectionable.

Blistering. Dr. F. W. Bartlett, of Buffalo, N. Y., reports, in the *Therapeutic Gazette*, 1883, one case, wherein the throat exudation markedly diminished and the general symptoms greatly improved, after the accidental blistering most severely of the abdomen, with hot turpentine. The raw belly was covered with an exudation, identical, to ordinary inspection, with that in the throat; and Dr. E. M. Reid reported to the Baltimore Academy of Medicine, 1884, several cases in which marked benefit and improvement in the throat symptoms followed the application of blisters to the chest. As soon as the membrane made its appearance on the blistered surface, the relief was observed. In some cases as the blister healed the throat symptoms reappeared; but on the application of another blister and the metastasis of the membrane, the same relief ensued as before.

Boracicum Acidum has been highly praised, painted over the throat and membranes in saturated solution and used as a gargle.

Brominium. The inhalation of the vapor of bromine has been found of service.

Calcis Aqua. Lime water inhalations are very useful, and as a gargle highly esteemed.

Carbolicum Acidum. Dr. C. SEDGWICK recommends highly (*Medical Times*, February 27th, 1867,) the following formula:

215. ℞. Acidi carbolici, ♏xx
Acidi acetici, ♏xxx
Mix and add gradually,
Mellis,
Tincturæ myrrhæ, āā f. ʒij
Aquam, ad. f. ℥j. M.

Use as a gargle for adults; apply by means of a sponge to the throats of children.

Dr. F. C. HORTZ, of New York, (*Medical Record*, August 1871,) uses:

216. ℞. Acidi carbolici cryst.,
Alcoholis, āā ʒj
Aquæ, f. ʒv
Tincturæ iodinii, f. ʒiss. M.

This makes a perfectly clear, transparent mixture, of a brown-red color, which soon, however, becomes pale yellow. This should be applied to the diphtheritic exudation three or four times in twenty-four hours, by means of a camel's-hair brush. In adults it should be used in a diluted form (fifteen to thirty drops to a cup of water) as a frequent gargle, and for injections into the nostrils if the nose is implicated.

Chloral is considered by Dr. R. CARNEY (*Canada Lancet*, 1880), as a specific in diphtheria.

217. ℞. Chloral hydratis, ʒj
Aquæ, ℥j. M.

S.—Use as a gargle every hour or two.

It may be applied by a sponge swab in infants.

Eucalypti Oleum. This has been introduced as a remedy in diphtheria by Prof. MOSLER. He adds a teaspoonful of a mixture of equal parts of the oil with alcohol, to the water used in a steam atomizer, and directs the inhalation to be kept up twenty minutes in each hour. It causes no irritation of the bronchi, and acts as a powerful disinfectant.

Ferri Chloridi Tinctura, applied alone or diluted with equal parts of glycerine.

Ferri Sulphas. The following gargle is highly recommended by Dr. DE SABBATA, of Venice:

218. ℞. Ferri sulphatis puri, ʒj
Acidi sulphurici diluti, ♏xxv
Aquæ, f. ʒiij. M.

Use as a gargle, For a topical application, aquæ f. ʒij should be used in the above. (DOBELL's *Reports*, 1876.)

Dr. Fera uses the finely powdered dried sulphate. He applies it with a horse-hair brush to the diphtheritic patches, and repeats it twice a day. The benefit is prompt and visible.

Liq. Ferri Subsulphatis (Monsel's solution) is highly extolled as a local application, by Dr. W. M. Hepburn, of Pennsylvania, in the *Medical and Surgical Reporter*, 1884.

Hydrargyrum Chloridum Corrosivum. Dr. Tomasso Billotti has tried in a number of severe cases :

219. ℞. Hydrarg. chlor. corrosivi, gr. j.
Alcoholis, ♏xv
Aquæ, ♏xx. M.

Apply with a fine camel's-hair brush to the diphtheritic patches, two to five times a day. The application must be performed with care, though he never had any bad results from it. All his patients recovered in one or two days. (Dobell's *Reports*, 1877.)

Iodinium. Dr. Waring-Curran obtains excellent results from iodine inhalations :

220. ℞. Potassii iodidi,
Iodinii, āā gr. iv
Alcoholis, f. ʒiv
Aquæ, f. ʒiv. M.

A teaspoonful (gradually increased to a tablespoonful) of the solution, is to be placed, with a handful of dried garden sage, in a pint of boiling vinegar, in a common inhaling jar, for inhalation. The inhalations are to be repeated about twelve times daily.

**Iodoform* is very highly praised by a number of authorities.

**Lacticum Acidum.* Lactic acid inhalations, by means of a spray producer (15 to 20 gtt., aquæ f. ʒss,) are said to act as a powerful solvent of the false membrane.

Limonum Succus is strongly recommended as a gargle.

**Muriaticum Acidum.* Dr. Hillier prefers this caustic to nitrate of silver. In very dilute solution, it is an excellent gargle.

Potassii Chloras in strong solution is an excellent gargle.

Potassii Permanganas. Dr. Watson Campbell recommends (*Edinburgh Medical Journal*, February, 1867,) the following :

221. ℞. Potassii permanganatis, gr. x
Aquæ, f. ʒxx. M.

To be used as a gargle, together with the internal administration of iron and port wine.

Pepsin. Acid glycerine of pepsine is recommended by Dr. W. Hale White, (*Lancet*, 1882), as a solvent for diphtheritic membrane, used as a spray.

Salicylicum Acidum. For those who can gargle, Dr. Wagner, of Fribourg, recommends the following formula :

222. ℞. Salicylic acid, 150 parts.
Alcohol, 15 "
Distilled water, 150 " M.
To be used every two hours.

He reports fifteeen serious cases as being cured by this method. For children too young to gargle, he gives the acid in water or wine, in doses of $1\frac{1}{2}$ to $4\frac{3}{4}$ grains every two hours.

Sassafras, oil of, is praised as a local application, by Dr. KENNARD, of St. Louis.

Sodæ Chlorinatæ Liquor, used as a disinfectant gargle.

**Sodii Hyposulphis.* Dr. MAYNARD recommends (*Medical Times and Gazette*, December 30th, 1865,) the local application of the hyposulphite of soda. In the very early stages he employs, two or three times a day, the following lotion :

223. ℞. Sodii hyposulphitis, ℥ij
Glycerinæ, f. ℥ ij
Aquæ, f. ℥ vj. M.
This, he finds, generally removes the incipient exudation in forty-eight hours, or less. In advanced stages he washes the throat out well with warm water by means of a flexible syringe, and then dresses the affected part with the above solution, using at the same time the following gargle :

224. ℞. Sodii hyposulphitis, ℥j
Glycerinæ, ℥j
Aquæ, Oj. M.

The effect of this solution he asserts to be most marked ; it appears to solidify and dry up the false membrane, and when the syringe is again used, which it should be frequently, the force of the water will wholly or partially wash it away. The exudation rarely re-forms, and the patient makes a comparatively rapid recovery. It is also highly recommended by Dr. J. M. ARMSTRONG, of Lisbon, Iowa, who uses it in connection with quinine and whisky and insufflations of sulphur, (*Medical and Surgical Reporter*, 1881). Dr. M. MEREDITH, of Vinton, Iowa, (*Ibid.*) has also used the hyposulphite of soda in diphtheria, and thinks it a valuable remedy, but he prefers :

225. ℞. Potass. chloratis, ℥j
Acidi hydrochlorici, ♏xv
Ext. belladonnæ fl., ♏xv
Aquæ, f. ℥iv. M.
S.—f. ℥ss to an adult every two hours.

Sulphur. The insufflation of sublimed sulphur was first recommended by Dr. BARBOSA. (*Practitioner*, November, 1868.) The unwashed flower of sulphur should be applied, by means of a simple tube slightly bent, directly to the affected surfaces. Reports of its utility are conflicting. It is also recommended by Dr. R. WOOD, in the *North Carolina Medical*

Journal, 1879. He mixes it with flaxseed water and uses by mopping, gargling, or injecting through the nasal passages, or what is preferable when it can be done, blowing the dry sulphur through a reed or quill directly on the diseased surfaces, and lastly by fumigation.

Terebinthinæ Oleum. Dr. SYMONDS advises (*British Medical Jonrnal*, March 14th, 1868,) the application of turpentine at the very commencement. Hot turpentine epithems also often relieve the local distress. Dr. TAUBE uses turpentine inhalations, 15 to 20 drops of the oil in hot water, hourly.

ECZEMA.

DR. EDWARD HENOCH, OF BERLIN.

The question arises whether the disease should be rapidly cured. He makes it a rule not to cure at once chronic eczema which has lasted for many months or even years, especially on the face or scalp. He applies local treatment to one part of the diseased skin after another, a plan to which we are forced, in many cases, by the great extent of the disease. The crusts should be first removed by inunctions with vaseline or fresh oil, or fomentations of lukewarm water (the latter being preferable on the scalp). After the removal of the crusts, the red and moist skin is washed once a day with soap-water (sapo viridis) and then bandaged with unguent. Hebræ, which should be applied for twelve hours. When the inflammation is severe, he first orders fomentations of lead-wash. The most difficult part of the procedure is to fasten the bandage to the face in little children, and prevent scratching. The former is best effected by the application of a linen mask, upon the inner surface of which the ointment is smeared, and the latter by enveloping the hands and fingers with cotton and linen. Instead of Hebra's lead ointment, he has also used successfully ointments of salicylic acid.

226. ℞. Acid. salicylic, gr. xlv–℥j
Spts. vini,
Glycerini puri., āā q. s.
Vaselini, ℥vij. M.
S.—To be used as an ointment.

Or tannin.

227. ℞. Acid. tannici, gr. xxx
Vaselini, ℥vij. M.
S.—To be used as an ointment.

Or zinc: More rarely and only in eczema of small extent, he uses an ointment of hydrarg. alb. or rubr. It is not advisable to use tar ointments from the beginning, as they may prove too irritating and increase the inflammation; on the other hand, they should be recommended after previous treatment with the ointments mentioned above, in order to make recovery more lasting. He generally uses oil of cade, which is applied daily as a liniment (1 part to 2 or 3 parts olive oil), after previously soaping the diseased parts. But, in applying tar ointments to extensive surfaces, you must always bear in mind the possibility of an irritant action on the kidneys, and therefore carefully examine the urine, the blackish color of which or the presence of albumen at once requires a discontinuance of the treatment. The duration of the treatment naturally varies greatly. While many eczemas, even those which have lasted for a long time, recover in a few weeks, others require treatment for months, and even then we often find that relapses occur without any ascertainable cause. In these very obstinate cases he has sometimes derived good results from the use of arsenic, in the form of Fowler's solution. Even children only two or three years old tolerate the remedy excellently in small doses (3 to 5 drops of the mixture t. i. d. given on a full stomach). In the scrofulous diathesis he has had good results from the use of the syrup of the iodide of iron or a mixture of iodine and iodide of potash. He does not recommend salt baths, as they not infrequently render the eruption worse by irritating the skin too severely. He would rather advise lukewarm (26° R.) soap or sulphur baths.

DR. W. H. PARISH, OF PHILADELPHIA.

The scabs must be removed as fast as they form (*Medical and Surgical Reporter*, 1884), and this can best be done by the aid of a starch poultice; when you remove it, the scabs will come with it. To the raw surface, apply benzoated oxide of zinc ointment; if there is much cutaneous irritation, dilute the ointment with one-fourth vaseline. For chronic cases, he uses an iodide of lead ointment, ten grains to one ounce of cocoa butter. Internally, he gives Fowler's solution, one-half drop three times a day to a child aged seven months.

M. LASEAR, OF FRANCE.

This author (*Medical and Surgical Reporter*, 1883,) highly recommends the following prescription in the form of eczema capitis observed in very young children.

228. ℞. Acid salicylic, ʒ ss
Tinct. benzoin, f. ʒ j
Ung. petrolei, ʒ iij. M.

The child's head should be first thoroughly washed with castile soap, and then carefully anointed three times daily with the ointment. If the crusts are hard and difficult to remove, they may be softened with olive oil, containing two per cent. of salicylic acid.

DR. R. W. WILCOX, OF MISSOURI.

Many cases, in children, fail to improve, according to this physician, because the applications are not closely applied to the diseased surface. To remedy this difficulty (*St. Louis Medical and Surgical Journal*, 1882), he uses a piece of cloth, with holes for the nose, mouth and eyes, and with slits for the ears to assist in keeping it in position. The ointment should be thickly smeared over the mask, which is to be worn constantly, only being removed as lotions are being applied. This treatment effectually prevents the scratching, which so thoroughly thwarts all endeavors. Any ointment can be used, but, for the most part, diachylon, very carefully made, is selected. In the same way, a skull-cap can be made for eczemas of the head.

PROFESSOR LOUIS A. DUHRING, OF PHILADELPHIA.

The treatment is in some cases easy, and in others not so. It is hard to predict, in any given case, what its course will be. Where the general health is good, no internal treatment is indicated. A not very stimulating local treatment is then needed. He uses, in such cases, an ointment of boracic acid, a drachm to the ounce of vaseline, to be rubbed in three times a day; the parts to be previously washed with a lotion containing three drachms of boracic acid to the pint of water. If this treatment does not produce beneficial results in a week, he substitutes an ointment composed of equal parts of tar ointment and vaseline. (*Medical and Surgical Reporter*, 1882).

M. VIDAL, OF PARIS.

In eczema of the scalp, accompanied by impetigo, this author (*Progrés Medical*, 1881,) employs the following treatment. Lotions with decoction of walnut leaves. Frictions morning and evening with

229. ℞. Glycerit. amyli, ʒ j.
Ol. cadini, ʒ j ½. M.

Suspend the frictions if they prove too irritating. As general treatment, he uses iodide of iron, the vegetable bitters, and sulphur baths, if the constitution be enfeebled, as it is in the generality of such cases. In another very different form of the disease, M. Vidal employs the following:

230.	℞.	Glycerite amyli,	℥j.	
		Tannin,	ʒ ss.	
		Hydrarg. submuriat.,	gr. xv.	M.

The above formulæ are proportioned for adults.

DRS. MEIGS AND PEPPER, OF PHILADELPHIA.

It is necessary to remove the constitutional disturbance which may be the essential cause of the affection, to allay the local distress, and to promote the healthy, vigorous nutrition of the skin. The most rapid and certain cures can only be effected by a judicious combination of general and local remedies. In mild cases, which show but little disposition to extend and are not attended by much irritation, regulation of the child's diet, and the use of simple bland applications, will be sufficient. When the disease is more extensive and attended with much irritation, it is necessary to examine carefully into the state of the digestive function, and if this be in any way disordered, to endeavor to restore it to a more healthful condition. When the child is teething, the gums ought to be examined, and, if found swollen or inflamed, they should be lanced as often as is necessary.

Constipation, if it be present, must be overcome by altering the diet, or by the administration of rhubarb, small doses of magnesia, Rochelle salts, or sulphur. If there are any evidences of acidity of the stomach, it is well to employ some of the various preparations of the alkalies. So also when diarrhœa is present, it should be treated by attention to the diet; and by the administration of a weak castor-oil emulsion, containing small quantities of laudanum, when the stools are feculent, but small, frequent, and attended with griping; when they are thin and watery, greenish, and composed in part of mucus, the following prescription will often prove very useful:

231.	℞.	Tr. krameriæ,	f. ʒj.	
		Tr. opii,	gtt. vj.	
		Sodii bicarb.,	℈j.	
		Syr. zingiberis,	f. ʒvij.	
		Aquæ,	f. ʒij.	M.

S.—Teaspoonful two or three times a day, for children of one and two years old.

In *chronic eczema*, arsenic is the most useful remedy; it is essential, however, that there shall be no undue irritability of the gastro-intestinal mucous membrane, or it will inevitably disagree. The following formula is recommended:

232. ℞. Liq. potassii arsenitis, ♏xvj ad xxxij
Vin. ferri amari.,
Syr. tolutani, āā f.℥j
Aq. carui, f.℥ij. M.

S.—Teaspoonful thrice daily, directly after food, for an infant from six months to a year old.

Its use should be immediately suspended, upon the supervention of any disturbances of digestion. The puffiness of the eyelids, one of the earliest and most characteristic symptoms of the physiological action of arsenic, is of no alarming importance, and the remedy need not be immediately suspended on account of its occurrence; though it is more prudent to reduce the dose and frequency of administration, and to watch carefully for any further signs of over-action of the drug. In cases that prove rebellious to local treatment and the use of arsenic, *cod-liver oil acts well*. In cases where there is marked anæmia and debility of constitution, the syrup of the iodide of iron has produced good results. This may be given in combination with the compound syrup of sarsaparilla, in the dose of from gtt. ij to gtt. v of the former, diffused in from a quarter to a half teaspoonful of the latter, three times a day, for children of one or two years of age. Where the tongue is heavily coated and the bowels constipated, with whitish or clay-colored stools, minute doses of blue pill or calomel, in combination with bicarbonate of soda, may be given from time to time, with manifest advantage.

Local Treatment.—All possible sources of local irritation must be removed. Whenever crusts or scales cover the affected surfaces, they should be removed very gently, by first softening or loosening them by oily applications or poultices, and then by using tepid water with or without soap. In the acute stage, great relief may often be obtained by the use of compresses repeatedly wet with water, either cool or hot, or with some emollient decoction, as of marshmallow, poppy heads, bran or flaxseed, sassafras pith or slippery elm bark. Weak lotions, as of one drachm of bicarbonate of soda, or of half a drachm of borax with a little morphia to a pint of water, or of diluted lead-water or carbolic acid ½ to 1 drachm to a pint of water, may be found more

soothing in other cases. The surface may be powdered from time to time with finely-powdered lycopodium, carbonate of zinc, or with the following:

233. ℞. Pulv. amyli, ℥ vj
Pulv. zinci oxidi, ℥ ss–℥j
Pulv. camphoræ, gr. xv. M.

When ointments are preferred, we may use:

234. ℞. Pulv. camphoræ, ℈j
Pulv. zinci oxidi, ℥ij
Glycerinæ, f. ℥ ss
Adipis benzoat., ℥vj.
M. et. ft. ung.

When the patches of eruption are small, our authors have successfully used ointment containing murcury; using one part of ung. hydrarg. nitratis to three or four parts of simple cerate or cosmoline. The following ointments are also recommended:

235. ℞. Hydrargyri protiodidi, gr. xij
Camphoræ, gr. v
Axungiæ, ℥j.
M. and ft. ung. S.—Apply twice daily.

Or,

236. ℞. Hydrargyri chloridi mitis, ℈j
Camphoræ, gr. v
Glycerinæ, f. ℥j
Ung. aquæ rosæ, ℥j. M.
Ft. ung.,

Or we may use weak solutions of bichloride of mercury, as Van Swieten's liquor:

237. ℞. Hydrarg. chlor. corros., gr. xviij
Alcoholis, f. ℥iij
Aquæ destillat., f. ℥ xxiv. M.
Ft. sol.,

In *chronic eczema*, we may use:

238. ℞. Olei cadini, f. ℥ ss–f. ℥ j
Cerati simplicis, ℥j
Ol. amygdal. amar., gtt. v. M.
Ft. Ung.,

In chronic cases, when the patches of disease are circumscribed, we may use:

239. ℞. Picis liquidæ, f. ʒ ij
Potassæ causticæ, ʒ j
Aq. destillatæ, f. ʒ v. M.
S.—"Liq. picis alkalinus."
To be used very largely diluted with water, as from one fluid drachm to the pint up to one part in ten of water, according to the extent of the disease and the susceptibility of the surface.

EPHEMERAL FEVER.

DR. R. L. MOORE, OF MINNESOTA,

uses:

240. ℞. Tinct. aconite, (German) gtt. xv
Aquæ, f. ʒ iij. M.
S.—Teaspoonful every half hour, with plenty of cold water, and sponging the whole body often.

ERYSIPELAS NEONATORUM.

DR. JOHN FERGUSON, OF TORONTO.

In the *American Journal of Obstetrics*, 1884, this author records a case of *universal erysipelas* in a child aged ten months, that recovered under the following treatment.

The local treatment consisted in frequently and thoroughly anointing the skin with the following:

241. ℞. Acid. carbolici, gr. v
Ext. belladonnæ, gr. xv
Ung. petrolei, ℥ j. M.

Soft cloths were kept next the skin, and the child loosely and comfortably covered.

The internal treatment consisted in the administration of one teaspoonful every three hours, in water, of:

242. ℞. Quin. sulph., gr. iv
Acid. hydrochlor. dil., ♏ xxxij
Tr. ferri chloridi, f. ʒ iss
Glycerini, ʒ iv
Syr. simp., ad ℥ ij. M.

As the child was nursing, no other form of food of any kind was given, nor alcoholic stimulants.

The duration of the attack, from its commencement at the vulva to its disappearance at the eyes and mouth, was fifteen days.

DRS. MEIGS AND PEPPER, OF PHILADELPHIA.

Our authors prefer the use of cooling emollient applications during the first part of the attack, whilst the skin is of a bright red color, hot and shining. When the circulation becomes languid, and the color of the eruption is disposed to deepen from red to purple, we should suspend the use of the emollient applications, and employ instead the lotion of camphorated spirit, recommended by UNDERWOOD; the camphorated tincture of soap, applied three or four times a day with a soft sponge, or Kentish's ointment, prepared by rendering basilicon ointment soft (not fluid) with spirit of turpentine. It is rubbed upon the inflamed part with the fingers, the anointing being "repeated often enough to keep the part always very thinly covered." The internal treatment should consist in attention to the bowels, which are to be kept soluble by the mildest laxatives, without being purged, and in a resort to tonic and stimulating remedies upon the very first approach of symptoms indicating exhaustion. The best remedies of this class are proper diet, wine whey, small quantities of brandy and bark, in connection with minute doses of carbonate of ammonia. In addition to these, the tincture of the chloride of iron should be given in large doses. For an infant of a month old we may use,

243. ℞. Tinct. ferri chlor., f. ℥ss
Acid. acetici dil., f. ℥ss
Liq. ammoniæ acetat., f. ℥j
Syr. simpl., f. ℥ss
Aquæ, q. s. ad f. ℥iij. M.
S.—Teaspoonful every three hours.

When the inflammation has gone on to the production of subcutaneous suppuration, it becomes still more important to sustain the forces of the constitution, by giving the baby a healthy and abundant breast of milk, and by the internal use of brandy in small quantities, of bark, or better still, of quinia in combination with small doses of carbonate of ammonia. At the same time, the suppurating surfaces must be well fomented, and dressed with warm poultices, and when necessary laid open by careful incisions, observing the precaution to cause as small a loss of blood as possible.

DR. EDWARD HENOCH, OF BERLIN.

Treatment is almost entirely unavailing in this affection. In the beginning, we may attempt to ameliorate the inflammatory process by large fomentations of lead water. Internal remedies, aside from mild purgatives, are entirely useless. If the erysipelas begins to extend, there is no remedy that will check its spread. Nothing remains but the use of tonic remedies, wine and infusion of bark. Complications must be treated according to their character. Abscesses must be poulticed, opened when distinct fluctuation is felt, and antiseptic dressings employed.

ERYTHEMA.

DR. LORENZO, OF ITALY.

This author (*Archivio di Patologia*, 1884), considers that erythema is one of the simplest and earliest to occur of the non-contagious inflammations of the skin. The author has seen 400 cases. The disease is caused by the contact of irritating substances, fæces, urine, etc., with a very tender skin, together with the natural heat of the affected parts. When due to syphilis, we may expect to find enlarged glands or œzena, or both, which are, of course, absent in simple erythema. The treatment, in simple cases, in addition to suitable hygienic and dietetic measures, is not elaborate, since it may be limited to dusting the inflamed surface with starch, lycopodium or some other unirritating powder. If considerable irritation exists, a solution of the acetate or bicarbonate of soda (saturated or even weaker) may be applied. Baths should be infrequent, but, in their stead, applications may be made to the skin with sambuco water, laurel water, a mixed solution of Goulard's extract, a solution of bicarbonate of soda, or one of chlorate of potassa in the strength of fifteen grains to four ounces of water. In cases in which the hyperæsthesia is very annoying, small doses of bromide of sodium may be given by the mouth. In addition to the applications already mentioned, the author suggests as useful, a liniment made of oleate of zinc, glycerole of starch, or Wilson's benzoated ointment, either alone or combined with bismuth. In cases in which eczema is a complicating condition, he recommends green soap combined with oxide of zinc.

HÆMATOMA OF THE STERNO-MASTOID.

DR. EDWARD HENOCH, OF BERLIN.

According to this author's observation, the swelling always takes a favorable course, becomes gradually smaller, and finally leaves a more or less firm cicatrix in the muscle, which interferes very little or not at all with its functions. He has never seen ulceration. The natural process of recovery by the formation of a cicatrix renders treatment unnecessary. At the most, an ointment of iodide of potassium may be rubbed over the tumor as a placebo, or in order to help the case under observation.

HEADACHES.

DR. DAY, OF LONDON.

This author calls attention (*Lancet*, 1883,) to neuralgia or one-sided headache, which, he says, is more common in children than is generally supposed. This headache may be due to dental caries or to foul air. Dr. MACKENZIE insists upon the importance of careful examination of the eyes in cases of headache of children, as myopia may produce it. Ear disease is also sometimes a cause. In all cases, therefore, of headache in children, it is important to examine the ear and the eye, using the ophthalmoscope, which will be of great importance in detecting organic disease.

DR. TREICHLER.

This author calls attention (*Medical and Surgical Reporter*, 1880,) to the fact that one-third of the pupils in schools suffer more or less from headache. It leads to poorness of blood, and loss of cheerfulness and mental energy. Its chief cause is overwork and nocturnal study. The remedy is obvious.

HYDROCEPHALUS.

DR. EDWARD HENOCH, OF BERLIN.

According to this author, the treatment in the beginning of the affection should consist of local bleeding, by means of a few leeches applied behind the ears or upon the forehead, ice-fomentations to the head, and purgatives, preferably calomel (gr. $\frac{1}{4}$–$\frac{1}{2}$ a few times a day). At a later period, when the inflammatory stage has passed and we wish to initiate the absorption of the fluid, he recommends the continued use of mercurials in small doses, inunctions of unguent. cinerit. on the head and neck, (15 grs. every day), and a blister to the neck, to the application of which great fear is now unjustly entertained. But the antiphlogistic method is applicable only in those cases in which the primary inflammatory stage has either been directly observed, or can, at least, be proven to have been present. He always regards internal chronic hydrocephalus as incurable, as soon as the head has increased in size to any considerable extent. He has achieved no results whatever, either with mercurial inunctions, iodide of potassium, or application of tincture of iodine to the head, nor from compression of the skull with adhesive strips, or from puncture through the fontanelles. When these methods of treatment have proven successful (this has happened in very rare cases) the case must have been one of external hydrocephalus.

DR. ARMAND SEMPLE, OF LONDON.

If the child be robust, it may be placed in a warm bath, a few leeches may be applied to the temples, or the ice-bag and cold evaporating lotions to the scalp; in every case light and sound should be excluded, and one grain of calomel mixed with a little sugar should be placed on the tongue every three or four hours; saline aperients, as tartrate of potash, may also be given combined with syrup of senna. When effusion comes on, iodide of potassium may be employed with advantage, followed by the administration of the syrup of the iodide of iron and cod-liver oil.

DR. HUGH P. DUNN, OF ENGLAND.

In the *Lancet*, 1882, Dr. Hugh P. Dunn recommends paracentesis in cases of hydrocephalus, believing that when the operation is properly

performed it is not dangerous, but on the contrary, is productive of much good. A small aspirator, of about half an ounce capacity, furnished with a double cock arrangement, is the instrument he uses. The child being held on the nurse's lap, with its head facing the light, the operator marks a point in the situation of the coronal suture about an inch from the longitudinal sinus, and holding the needle firmly in his right hand, thrusts it into the cranium with its point slightly inclined inward. It is a good plan to first thoroughly cleanse the needle in a solution of carbolic acid. The needle having entered the cranium, the surgeon grasps it close to the scalp by the forefinger and thumb of the left hand and steadies the head with the right, and the assistant manipulates the piston of the aspirator. The piston should be slowly withdrawn, and pauses of a few seconds now and again allowed to elapse, in a manner similar to the application of the écraseur. The position of the needle may be altered from time to time, according as the tension on the piston shows that the fluid has diminished. After about half an ounce of fluid has been abstracted, compression of the cranium should be secured. The best way to secure this is to use a piece of India-rubber tubing, corresponding in diameter to a quarter-inch gas pipe. The tube, around which some lint may be wrapped or sewed, should be made to encircle the cranium twice, at a level with the occipital protuberance behind and the centre of the forehead in front. As the fluid is gradually withdrawn, the tube is, from time to time, readjusted and tightened. When the operation is completed, the punctured spot is covered with a piece of dry lint, and attention directed to compression of the cranium, which can be accomplished by fixing the tube *in situ*, or a capeline bandage of flannel carefully applied.

PROFESSOR S. D. GROSS, OF PHILADELPHIA.

This distinguished authority (*Medical and Surgical Reporter*, 1881,) considers that very little can be done for the relief of this condition. The late Dr. CONQUEST, of England, published a series of cases, in all about fifteen or eighteen, where a cure followed the operation of tapping. Dr. GROSS places no reliance on his statements, for the experience of the entire medical and surgical profession is against his conclusions. Due attention to hygiene is, in the opinion of Dr. GROSS, about all that can be recommended for these patients.

C. WEST, M. D.

The value of *purgatives* can scarcely be overrated in acute hydrocephalus, but they must be given so as not merely to obtain free action of the bowels, but to maintain it for some days. This end is best secured, after having once overcome the constipation, by giving small doses of a purgative every five or six hours. The administration of strong cathartics every morning will not answer the end nearly so well; if they cause sickness, it is better to give a single full dose of calomel, and follow it up with sulphate of magnesia at short intervals. The following mixture is then advised:

244. ℞. Magnesiæ sulphatis, ℥j
Potassii nitratis, gr. x
Syrupi limonis, f. ℥iij
Aquæ, f. ℥ix. M.
A dessertspoonful (f. ℥ij) thrice daily, for a child of one year.

In all cases, of course, the solution and regulation of the purgatives must be determined by the strength of the child.

The local abstraction of blood by *leeches* sometimes proves serviceable when there is much febrile action. They should be placed on the crown of the head rather than on the temples. They are inadmissible when the patient is much debilitated.

J. S. RAMSKILL, M. D.

The *iodide of iron* is usually well borne by hydrocephalic children, unless there be a tendency to congestion or inflammatory action. Among the children of the poor, the combination of *cod-liver oil* and syrup of the iodide almost always gives satisfactory results.

The *mercurial* plan of treatment advised by Prof. GOLIS, of Vienna, is regarded by Dr. RAMSKILL as one of the best. The head should be shaved, and the following ointment prescribed:

245. ℞. Unguenti hydrargyri, gr. xx–xl
Unguenti olei juniperis, ℥j. M.
To be rubbed on the shaved scalp, twice a day.

The child should wear a woolen cap, to prevent the risk of the perspiration being checked by the cold air. *Calomel* (gr. ¼–ss) should be given thrice daily. If this purges too much, the mercurial inunction should be alone employed. The treatment is to be persevered in for thirty or forty days, when, if there be some improvement, the remedies

may be gradually diminished, but the cap is to be worn after the inunction has been discontinued. If there be no marked improvement after six or eight weeks, some diuretic, as *acetate of potash*, or *squill*, may be added, and a couple of *issues* may be inserted in the occiput. *Blisters* to the nape of the neck may be advantageously substituted for these. Whenever there is heat of head, and the child grows fretful, restless and irritable, a couple of *leeches* behind the ears will be found of service. When convalescence has begun, it may be accelerated by small doses of *quinine*.

DR. A. N. READ, OHIO.

This writer has reported remarkable success in several cases of chronic hydrocephalus, by the external use of pure *glycerine*. (*Transactions of the Ohio Medical Society*, 1876.) He gives, for instance, the case of a child, eighteen months old; head, twenty-four inches in circumference; sutures separated, and bulging of integuments. He applied twice daily to the head glycerine, with a little tincture of iodine, and directed the use of a close-fitting cap. The application caused the child "to sweat dreadfully." This suggested that glycerine, because of its strong affinity for water, had caused an exudation of serum, which, if continued, might cure the child—a hope strengthened by remembering the drain following its application to indurations of the uterus. After a year's use, the child was cured. In 1874, the child was attending school, with fair intellect and good health.

Dr. MERVEL, of Monroeville, Ohio, has reported the result of a partial trial in one case. Child under one year old; head circumference, twenty-two inches; eyes much protruded, as well as integuments over separated sutures. Applications of glycerine were followed by profuse serous flow. In three weeks the eyes were restored to their natural position, and there was no protrusion between cranial satures; but the head was not reduced in size.

PROF. ELLERSLIE WALLACE, M. D., PHILADELPHIA.

The following is one of the best tonics which can be given in this disease:

246. ℞. Potassii iodidi, ℈j
Syrupi tolutani, f. ʒss
Aquæ, f. ʒij.

A teaspoonful morning and evening, after food.

In some cases, the *elix. quiniæ, ferri et strychniæ,* acts in a most satisfactory manner.

DR. NATHAN S. DAVIS, CHICAGO.

The method in chronic hydrocephalus proposed by Prof. BRAINARD, of puncturing the head and injecting a weak solution of iodine and iodide of potassium, has been tried, but no successful case has been reported. The objects toward which the medical treatment must be directed, are, first, to allay the morbid excitement of the cerebral structures ; and, second, to exert a gentle, yet persistent alterative and diuretic influence, avoiding, carefully, any impairment of the digestive organs. Dr. DAVIS has succeeded in accomplishing these purposes by the following prescription:

247. ℞.	Extracti fluidi scutellariæ,	f. ℥ij	
	Tincturæ digitalis,	f. ℥ss	
	Potassii iodidi,	ʒij	
	Extracti fludi hyoscyami,	f. ℥ss.	M.

Twenty drops, four times a day, in sweetened water.

If the digitalis is found to be exerting too much influence, the dose must be diminished. *Mercurials* are of no advantage in the chronic stage ; though, in the early inflammatory stage, combined with mild laxatives, they might check the progress of the disease.

NOTES ON REMEDIES.

Antimonii et Potassæ Tartras is now much less employed than formerly, being considered less efficacious than cod-liver oil, iodine, and nutritives.

Hydrargyri Chloridum Corrosivum has been given in doses gr. $\frac{1}{30}$ to $\frac{1}{12}$, with good results, but calomel is generally preferred, when mercury at all is given. The mercurial treatment of acute hydrocephalus, once so general, is now rarely resorted to, and is regarded as of little value, if not actually hurtful. In *chronic* hydrocephalus, it is however, still employed.

Magnesii Carbonas has been advised in doses of ʒj–ij, saturated with lemon-juice, taken every two or three hours, as a purgative, which sets well on the stomach, even when very irritable.

Potassii Iodidum is recommended by Dr. HILLIER, gr. j every four hours, for young children, when the disease is declared, together with ice or cold lotions to the head, mercurial aperients and absolute rest in a quiet, darkened room.

Terebinthinæ Oleum is recommended by Dr. COPLAND in incipient hydrocephalus, in doses of ♏v–x, with ♏xx–xl of castor oil. He also speaks highly of turpentine enemata.

**Cathartics* have a high value in cases of acute hydrocephalus.

Leeches to the crown of the head are of service when there is much febrile action, if the patient be not too much debilitated.

EXTERNAL REMEDIES.

Croton Oil counter-irritation to the shaven scalp, has been recommended by Dr. R. S. Turner. (*Edinburgh Medical Journal*, November, 1868.) He uses the following liniment :

248. ℞. Olei tiglii, 1 part
Olei olivæ, 3 parts. M.

**Hydrargyrum.* Mercurial inunction is recommended by Prof. Golis and Dr. Ramskill.

Iodine lotions to the scalp, or inunction of iodine ointment, used conjointly with iodide of iron and cod-liver oil, internally, offer a chance of success in the advanced stage.

Iodoform inunctions of the scalp have been praised by Dr. Moleschott, of Turin.

Ipecacuanha. The following counter-irritation is said to have produced great amelioration of the symptoms :

249. ℞. Pulveris ipecacuanhæ, ℥ ij
Olei olivæ, f. ℥ ij
Adipis. ℥ ss. M.

To be rubbed on freely for fifteen or twenty minutes, thrice daily, and the parts then enveloped in flannel. In thirty or thirty-six hours, an eruption appears, which remains out for three or four days.

HYDROCEPHALUS (SPURIOUS).

DR. JOHN STRAHAN, OF ENGLAND.

The hydrencephaloid condition, or spurious hydrocephalus, is liable to develop as a sequel of badly-treated cholera infantum ; and in order to call attention to this subject, Dr. John Strahan read a paper before the British Medical Association, 1884.

When spurious hydrocephalus is coming on, all fever which existed previously in cholera infantum disappears, and the temperature becomes subnormal. There are irritability and fretfulness, with hoarse cry.

Then comes on the somnolent stage. The surface is cool, the skin pale, the pulse quick and weak, the eyes half closed, sunken, and surrounded by wide dark circles; the fontanelle, if still unclosed, is con-

cave, the head cool. The child ceases to take notice, the pupil is insensitive to light, the head is rolled frequently from side to side, the child gradually becomes more drowsy. If the case be neglected or improperly treated, coma gradually comes on, then convulsions and death.

As to the treatment of the hydrencephaloid condition, should it unfortunately set in, the diarrhœa, if still present, must be stopped at once, if possible. But whether diarrhœa be present or not, the child should have a hot poultice, faced with mustard, applied to the nape of the neck, also some very hot application to the cardiac region, on account of the powerfully stimulant effect of local heat on the heart. He then gives about ten minims of aromatic spirits of ammonia in camphor-mixture every two hours, and, at a different time, a drop or two, according to age, of Ashburton Thompson's tincture of phosphorus in a little mucilage. If the digestion will permit it, good milk for food, not less than a pint and a half, or more than two pints in twenty-four hours, with frequent doses of ten to twenty minims of brandy. Should the digestion not permit of milk, then the raw-meat plan finds its most useful application.

The nurse should be cautioned against raising the child into the upright position; the body-heat must be kept up by some means, or the child will die; plenty of hot flannels and a heated room usually are best, but the ventilation of the room should be very good. By such means, a wonderful improvement is often obvious in one or two days, and frequently recovery is complete at the end of three days. Should the hydrencephaloid condition come on without previous cholera or diarrhœa, as it sometimes doses after weaning, from loss of blood, *e. g.*, by leeches, from improper use of cathartics, or, indeed, from exhaustion from any cause, even from improper treatment of the early stages of the complaint itself, the treatment is just the same; and whenever we see the surface of the fontanelle concave and depressed, we should put thoughts of cerebral congestion and tubercular meningitis out of our heads, and diligently employ every means of tone-giving, stimulation, and support.

HYSTERIA.

PROFESSOR F. FORCHHEIMER, OF OHIO.

According to this author (*Archives of Pediatrics*, 1884,) hysteria in children has received altogether too little attention. From his experience he believes, that in nearly all cases of severe hysteria, the inception took place during childhood, and that fully one-half of all cases show nervous symptoms long before puberty. The hereditary factor plays a very important role in the production of this disease, therefore with children of neurophathic parents, we should aim to develop their bodies as much as possible, even, if need be, to the neglect of their minds. For this purpose, gymnastics of all sorts are advisable ; riding, swimming, if the child be old enough ; in younger children, massage, beating and rubbing of the muscles, and cold sponge-baths, are very effectual. The child must be allowed to go out of doors ; if unwilling, it must be compelled to do so with its attendant. If possible the child should be removed from the influence of its nervous parent. If necessary to send such a child to school, the ideal school will be one in which there are a great many pupils, but the hours very short, so that a great deal of time will be spent out of doors. He especially cautions against the study of music, since there are very few who are able to pass through a thorough course in this branch without suffering more or less from hysteroid troubles. These children seem to have weak stomachs ; their digestion is easily affected by articles of food, that seem to have no evil effect upon their companions. Their appetite is capricious. The diet, therefore, should be a light one ; albuminous food, easily digested, starchy material, young vegetables and fruit, cooked, or, if raw, quite ripe. Medicine is of little benefit. It sometimes becomes necessary to give iron, and great care should be taken to select a preparation that will not disorder the stomach. The preparations of valerian have a palliative effect. Electricity may be used with temporary advantage. In obstinate cases, that resist the measures already suggested, we must resort to the treatment recommended by Dr. S. Weir Mitchell.

The plan of treatment, in detail, is as follows : The patient must be confined to the care of a nurse, *i. e.*, must be removed from relatives or parents. This is imperative. If circumstances do not permit of the

removal of the patient to another building, he confines the child with its nurse to a room, forbidding visits of any sort. This part of the treatment is probably, the most difficult to carry out; and if it is at all possible, the patient ought to be taken from the house of its parents. The next step in the treatment is to put the child to bed, where it remains until one week has elapsed from the time of disappearance of all symptoms. It is impossible, in any individual case, to predict how long it will be necessary to confine the patient in bed; upon the whole, the time is shorter in children than in adults. He always, during the first period of the treatment, insists upon a strict observance of the following rules: The child is to be left to itself as much as possible. Neither playthings nor books are to be permitted. It is necessary that a certain amount of moral force be allowed to act upon the patient in the beginning of the treatment. After the symptoms of the disease have begun to disappear, the nurse visits the child more frequently, or if necessary remains with it all the time; the other restrictions are taken away, books and playthings are permitted, and the child is allowed to amuse itself. The patient is to have massage of the whole muscular system, applied every day, and this requires a trained nurse or manipulator. A weak interrupted current should also be applied daily. The sittings are not to be made too long, and the electricity especially seems to be very grateful to the patient. The diet at first should be milk only, the quantity given varying with the age of the patient. Very much less trouble is experienced in giving to children an absolute milk diet than to adults. After the digestive organs are perfectly restored to their normal condition, other albuminous food can be given, especially boiled and roasted meats. The condition of the bowels must be looked to. Sometimes we find constipation, sometimes the opposite, the result of the milk treatment. On account of continued diarrhœa, it even becomes necessary, in some cases, to desist from an absolute milk diet and to order meats from the beginning. The object of the diet is to give to the patient as much digestible food as his digestive apparatus will bear. The quantity is to be regulated by the condition of the individual, and food must be given frequently. It is not always that the patient is anæmic; some of these patients are occasionally very fat, and with them nothing succeeds so well in reducing fat and making blood as this method of treatment. The principles of this treatment are so well stated by Dr. S. Weir Mitchell, and so thoroughly carried out by

his results, that it is necessary only to refer to his works upon the subject (*Fat and Blood*, *Rest in the Treatment of Disease*, and *Nervous Diseases*).

ICTERUS NEONATORUM.

DR. EDWARD HENOCH, OF BERLIN.

According to this author, in the majority of cases, treatment is unnecessary, as the disease recovers spontaneously. In not a small number of cases, however, the jaundice is complicated with other more serious diseased conditions. Many of these patients are extremely emaciated and feeble at birth, they suffer from sprue in the mouth and on the gums, and are affected with diarrhœa and vomiting. In such cases the proper treatment would be the use of an infusion of bark, with hydrochloric acid, mouth-washes of a solution of chlorate of potash and aromatic baths.

PROFESSOR R. A. F. PENROSE, OF PHILADELPHIA,

recommends the following formula:

250. ℞. Hydrarg. chlor. mite, gr. j
Sacch. alb., gr. xij. M.
Ft. chart. No. xij.
S.—One every two hours.

DR. ARMAND SEMPLE, OF LONDON.

According to this author, in infants and very young children, when the disease is occasioned by cold, little is required beyond keeping them warm, and giving no food except the breast milk. The skin will then, by degrees, regain its normal function. A small dose of hydrargyrum cum creta or castor oil may, however, be advantageously administered. In older children if there be pain or tenderness in the region of the liver, a few leeches or a linseed poultice may be applied. A few grains of grey powder may be given with a mixture of sulphate of magnesia and taraxacum or nitro-muriatic acid and gentian. A very important point is to keep the bowels well open.

INCONTINENCE OF URINE.

DR. SAMUEL S. ADAMS.

This author (*American Journal of Obstetrics*, 1884,) does not approve of chloral with children. The bromides take foremost rank in the treatment of those cases in which an exalted nervous condition can alone account for the incontinence. They should be given in large doses at bed-time. Belladonna is the remedy *par-excellence*, in those cases believed to be associated with a tonic spasm of the bladder. It should be given in large doses at bed-time, increased, drop by drop, daily, until improvement results or its physiogical effects are manifested. If there is relaxation of the sphincter vesicæ or paresis of the muscles of the bladder, strychnia is indicated.

When the prepuce cannot be retracted circumcision should be performed; but sometimes, while the opening in the prepuce is large enough, it cannot be retracted owing to adhesions. In such cases, if these adhesions are broken up, favorable results will follow.

PROFESSOR ROBERTS BARTHOLOW, OF PHILADELPHIA.

When there is acidity of urine and weakness of the sphincter with spasmodic contraction of the muscular layer of the bladder, this author (*Archives of Pediatrics*, 1884,) uses bicarbonate of potassium to meet the first indication, ergot for the second, (a pill containing one-fourth of two grains of aqueous extract of ergot, combined with one-fourth of a grain of extract of *nux vomica*), and a bromide for the third. A bromide is particularly indicated in those cases where the patient dreams of passing water. If the patient is anæmic, he would give the iodide of iron. The bromide should be given in a single dose at bed-time.

PROFESSOR S. D. GROSS, OF PHILADELPHIA,

recommends:

251. ℞. Strychniæ, gr. j
Pulv. cantharid., gr. ij
Morph. sulph., gr. iss
Pulv. ferri, ℈j. M.
Make 40 pills.
S.—One three times daily to a child ten years old.

MR. ROBERTS ARTHUR JONES, OF ENGLAND,

States in the *British Medical Journal*, 1880, that the treatment he has usually adopted and always found successful in "Nocturnal Incontinence," is sponging with cold water, night and morning, especially the loins, and the following mixture:

252. ℞. Tinct. belladonnæ, f. ℥ss
Liquor potassii,
Glycerinæ, āā f. ℥ij
Aquæ, q. s. ad f. ℥viij. M.
S.—Two tablespoonfuls night and morning (N. B. This dose, is, of course, intended for adults. Ed).

INDIGESTION.

DR. LOUIS STARR, OF PHILADELPHIA.

According to this author (*Archives of Pediatrics*, 1884,) when we find the tongue perfectly clean, the appetite good, and neither eructation, increased thirst, nausea nor vomiting, but great, uniform gaseous distention of the abdomen, without other symptoms, we have to deal with *intestinal indigestion*. In treating such cases, a careful regulation of the diet is important. The starches and fats must be excluded, because they are digested in the intestine. Three meals a day of the following articles of food should be taken. For breakfast, at 7:30 a. m., a bit of fresh fish or the lean of a mutton-chop, or a piece of tender beefsteak, with milk, (either warmed or not, according to taste,) and a single thin slice of stale bread without butter. For dinner at 2 p. m., the soft part of half a dozen oysters, a bowl of meat broth, entirely free from fat, or, instead of this a piece of lean beefsteak, roast mutton or beef, a little spinach, or well boiled cauliflower tops, and not more than a single slice of thin unbuttered bread. For supper, at seven o'clock in the evening, one or more glasses of milk, with a single slice of unbuttered bread. For drink, nothing but filtered water. The medicinal treatment must be directed to remedying the impaired pancreatic secretion. For this purpose he orders:

253. ℞. Ext. pancreatis, gr. xxx
Sodii bicarb., ℥j
M. and ft. chart No. xij.
S.—One powder to be taken 2½ hours after each meal.

Nux vomica is also indicated, partly to give tone to the muscles of the intestine, which must be in some degree weakened by the constant distention, and partly to encourage proper glandular action. He therefore orders three drops of tincture of nux vomica with a teaspoonful of compound infusion of gentian, before each meal.

Finally, to assist in the reduction of the abdominal distention, it will be well to rub the belly thoroughly twice a day with a stimulating liniment, such as turpentine and olive oil, one part to three.

DR. E. W. DUNBAR, OF ZURICH.

In *The Practitioner*, Dr. E. W. DUNBAR, of Zurich, says that, for loss of appetite, in children, with pain after eating, nausea and depression, if accompanied by a tongue either clean or slightly coated, but showing redness and enlargement of the papillæ fungiformes, bismuth is very good. He gives it either in the form of subnitrate, in doses of one-half grain up to two, three and five grains, or the solution of the oxide in ammonia and citric acid, in doses of from two minims under one year to three, five, ten, fifteen and twenty minims, up to twelve years of age; the dose to be repeated twice, or four times a day, according to the severity of the symptoms. Bismuth is quite ineffectual in the dyspepsia of children, when the tongue is smooth, clean, and shows no enlargement or redness of the papillæ fungiformes.

DR. EDWARD HENOCH, OF BERLIN.

This author teaches that the dangerous consequences which may develop from a neglected dyspepsia, make early and careful treatment our duty, which can only be fulfilled with hopes of success when the surrounding conditions of life are favorable, and our directions are carefully carried out.

In many cases the patient is only seen after nature has removed the deleterious contents of the digestive canal by vomiting and diarrhœa. Here you need simply regulate the diet. If the child is nursed at the breast, the possibility of any deleterious change in the milk must be considered. It will be well to let the breast be taken less often than usual for a period of from twenty-four to thirty-six hours, substituting some thin oatmeal or barley gruel. If the appearance of menstruation in the nurse always produces dyspepsia in the child, she should be changed, but this rarely happens.

If the child is fed on artificial diet, a series of experiments will reveal the offending article. Dyspepsia will sometimes persist despite several changes in the nurses, and only disappear when the child is weaned. As long as emesis continues it will be well to give cold milk by the spoon, as drinking from the bottle readily induces overloading and vomiting. In fresh cases (not more than three or four days standing) he uses calomel as the first remedy.

254. ℞. Hydrarg. chlor. mite, gr. j
Sacch. alb,, gr. xij
M. and ft. chart. No. xij.
S.—One every three hours.

Next to calomel comes hydrochloric acid, which yields good results in cases no longer acute.

255. ℞. Acid. hydrochlor., gtt. vj–xv
Aq. destil., f. ʒiij
Gum arab., gr. xv
Syrup. alth., f. ʒ v
Tinct. opii, gtt. ij–iv. M.
S.—Teaspoonful every two hours.

In recent cases you should not add opium, as its constipating action causes tympanitic distention of the intestines. When calomel and hydrochloric acid fail, he uses creosote, especially when emesis is prominent, and also, when, after the subsidence of acute symptoms, thin, stinking evacuations continue.

256. ℞. Creosoti, gtt. ij–iv
Aq. destil., f. ʒj
Syr. alth., f. ʒ iv. M.
S.—Teaspoonful every two hours.

When there is diminished secretion of gastric juice, pepsin may prove useful.

257. ℞. Pepsinæ, gr. xv
Acid. hydrochlor., gtt. vj
Aq. destil., f. ʒiv
Sacch. alb., gr. cl. M.
S.—One dessertspoonful four times daily.

When the presence of mucus in the stools shows the beginning of a catarrhal condition of the intestinal mucous membrane, subnitrate of bismuth may be used. After recovery, he uses rhubarb as a digestive tonic, which must be given for several weeks in the form of tinct. rhei vinosa (five to fifteen drops, three or four times a day, according to age).

INFANTILE PARALYSIS.

ALLEN M'LANE HAMILTON, M. D., NEW YORK.

The most active and useful agent in the therapeusis of this disease, is *electricity*, either as galvanism or faradism, applied to the muscles. As, however, there is a central lesion, it is advisable to begin an energetic course of bromides and ergot (gtt. v of the fluid extract), with the actual cautery, before the atrophic condition commences. *Strychnia* is also an efficient agent. Young children may commence with gr. $\frac{1}{120}$, which may slowly be increased. A palatable form is:

HAMMOND'S SOLUTION:

258.	℞.	Strychniæ sulphatis,		gr. j	
		Quiniæ sulphatis,			
		Ferri pyrophosphatis,	āā	ʒj	
		Acidi phosphorici diluti,			
		Syrupi zingiberis,	āā	f. ℥ij.	M.

Sixteen drops contain gr. $\frac{1}{120}$ of strychnia.

Cod-liver oil, sea-air, good food and tonics are all important. The paralyzed muscles should be treated by massage, heat and cold, and the faradic and galvanic currents. Some writers speak highly of "JOUNOD'S Boot," the paralyzed limb being placed in the boot and the air exhausted.

Much may be done to prevent the contractions and deformities which accompany old cases of this disease, by the daily use of passive exercises and shampooing; recovery of power is often contributed to by the use of *galvanism*. The mild, continuous current is found to be especially useful in the class of flaccid muscles, whilst no good is ever done by galvanism in the class of rigid muscles.

Dr. WEST gives in this disease *nux vomica*, gr. $\frac{1}{8}$ to a child three years old, increasing the dose till it reaches $\frac{1}{3}$ of a grain, thrice daily.

The use of *ergot* has also been advocated, gtt. v of the fluid extract thrice daily, to a child two years old.

The etiological treatment has reference to dentition, worms, constipation, anæmia, præputial irritation, etc.

DR. ARMAND SEMPLE, OF LONDON.

Infantile paralysis proper, sometimes called infantile spinal paralysis, occurs in young children, and its exact nature, even now, is not thoroughly understood. It shows a special tendency to affect children

under two years of age. Sensation is totally unaffected, the paralysis being intrinsically motor. The invasion is usually sudden, is accompanied by pyrexia, and terminates in atrophy of the muscles and complete paralysis. The limbs are not always affected exclusively. The lumbar muscles may be implicated, and the spine curved to a greater or less extent. No morbid appearances are found in the brain or the cranial nerves. It may be caused by febrile or nervous affections; or it may follow cold and convulsions, diphtheria, ulcerated sore throat, or some eruptive fever. Blows and falls on the hip may produce the disease. Delayed dentition in a rickety child must also be regarded as causative. As for treatment, absolute rest is imperative; fever symptoms must be combatted with saline aperients and other appropriate remedies. A few leeches to the spine or counter-irritation by vesicative liniments may prove of service. Subcutaneous injection of ergotine has been recommended, since it is stated to control hyperæmia by contracting the small vessels of the spinal cord. Belladonna also controls hyperæmia of the spinal cord and its membranes. Iodide of potassium, in small doses, combined with some vegetable infusion may prove useful. Quinine, iron preparations and strychnia are also considered useful. The affected limb should be exercised daily and friction should be constantly employed. When the paralysis is advanced no benefit can be expected, save from faradization and galvanism. The continuous current should be applied to the affected muscles, at first two or three times a week, and eventually oftener. It should be used for about a quarter of an hour at a time, increasing the power of the current by degrees, as improvement results. After a time, the induced or Faradaic current may be used instead of the continuous variety. This form of paralysis is sometimes very chronic and obstinate, and the treatment has been continued in some cases for months and years. The apparently most hopeless cases may recover completely under proper local and constitutional remedies. The warmth of the affected muscles may be maintained by enveloping them in stockings of "chamois leather" or "pure spun silk." In some cases the seaside or mountain air is valuable.

DR. WILLIAM PEPPER, OF PHILADELPHIA.

This distinguished authority on diseases of children, says (*Medical and Surgical Reporter*, 1884,) that in treating the early stage of this disease, he thinks that it is well to act upon the supposition that there

is irritation and congestion of the spinal cord. Counter-irritation along the spine and the use of ergot, belladonna and iodide of potassium internally, are indicated. At a later stage of the disease, when as much of the paralysis as will clear away has passed off, and there remains only the permanent paralysis which is associated with a serious lesion of the spinal cord, this line of treatment does not produce good results. We then have to depend upon remedies to promote the general nutrition, as iron and cod-liver oil, with correct hygiene, taking great care that the child is dressed properly and not exposed to dampness, draughts, etc. Friction of the skin should be employed to maintain the circulation, for the child cannot take that incessant exercise by which young children maintain a healthy condition of their muscles and functions. In addition to this, there should be treatment especially directed to the paralyzed parts, hoping that the tone of the spinal centres will be sufficient to enable them to maintain their integrity and prevent disintregation and atrophy of the nerve cells, which will be followed by wasting of the corresponding muscles. He does not know that we have any remedy that specially influences the nutrition of these important nerve cells. Strychnia has no effect upon them, but acts only upon the motor nerves and the muscles. It is proper to use strychnia at a late period of the case, and it may be administered by the mouth or hypodermically, being injected into the affected muscles. The object of this treatment is to improve the nutrition of the muscle, and not to act upon the spinal cord. Massage, friction and passive movements should also be employed with the same object. The circulation of the skin should be stimulated by friction and warm clothing. Good results are often obtained by putting the affected member under an air-pump and exhausting the air. The limb is as it were enclosed in a large cupping glass, a vacuum is created, and the blood is drawn into the part. This carefully repeated is frequently of service.

In private practice, we have scarcely the means of treating these patients as they should be treated. All that form of apparatus which has been brought to such perfection in Sweden serves an excellent purpose in the treatment of atrophic infantile paralysis.

Electricity is an important agent in the treatment of this affection, but its use requires judgment and skill. That current is employed which will give contractions of the paralyzed muscles, and the interrupted galvanic current is practically the only one which is of service.

It is to be used of such a strength and with the current interrupted at such a rate, and applied over the nerve points, the nerves themselves, or the muscles, according as you get the best results. There is no fixed rule to be laid down for the use of electricity, save that the current should be moderate, and used in such a way as to secure contractions of the affected muscles.

What we do for these cases in private practice is to promote nutrition by the use of iron, cod-liver oil, later employ strychnia, keeping up friction of the skin, and training the parents in the use of massage and passive movements, carefully regulating all matters of hygiene, and if we have time and a suitable battery, apply the galvanic current. These are cases which are more satisfactorily treated in institutions especially designed for this purpose.

These cases require a long treatment, and if this is neglected the paralyzed muscles may pass into a condition of hopeless atrophy from disuse, and although the trophic centres of the cord may not be ruined by the original disease, the muscles from lack of proper treatment become hopelessly wasted.

DR. THOROWGOOD, OF ENGLAND.

According to this author (*Lancet*, 1883), cases of paraplegia, and sometimes of the knee, of apparently obstinate kind, have been met with, where the cure has been missed from a want of attention to the condition of the intestinal canal. The late Dr. GRAVES, of Dublin, gives a case where a youth who had fed freely on nuts, had a distinct attack of paraplegia, only cured by the effectual purgation of his intestine from the crude mass formed by undigested nuts. Intestinal worms are sometimes a cause, and here the line of treatment is clearly indicated.

INFANTILE SYPHILIS.

EDWARD ELLIS, M. D., LONDON.

This author remarks that *mercury* is the best sheet-anchor. In treating children he prefers the use of gray powder, in doses of from ½ a grain, to 2 grains, twice to thrice daily, with a few grains of compound cinnamon powder to prevent the mercury running off by the bowels. This treatment should be persevered in from six to twelve

weeks, occasionally substituting corrosive sublimate with bark. Vomiting and diarrhœa are indications for temporarily stopping the mercurial course, or at least for changing its form. Sometimes a little chalk or carbonate of potash added to the gray powder enables it to be well borne. *Black-wash* is the best local application; anal condylomata should be dusted over with calomel, and kept scrupulously clean. Occasionally they may require a touch with nitrate of silver. Caustic is also useful in ulcerations of the mouth and tongue. Iodide of potassium, bark, sarsaparilla, and the syr. ferri iodidi are of value, after the mercurial course, in improving the general health. Baths of corrosive sublimate are recommended in the skin complications.

As examples of prescriptions he gives:

259. ℞. Potassii iodidi, gr. ss–vj
Spiritûs ammoniæ aromatici, ♏j–v
Syrupi sarsaparillæ, ♏x–f. ʒj
Aquæ, f. ʒij–f. ʒj. M.
For syphilitic cachexia in infants, *p. r. n.*

Where the iodide of potassium does not agree, he prescribes the sodium iodide:

260. ℞. Sodii iodidi, gr. iv
Syrupi sarsaparillæ, f. ʒss
Decocti sarsaparillæ, f. ʒiv. M.

R. W. TAYLOR, M. D., NEW YORK.

In the monograph by this author (*Syphilitic Lesions of the Osseous System in Infants and Young Children*, N. Y., 1875,) he prefers, for the treatment of these lesions, a mixed plan, combining *mercury* and *iodine*. His usual prescription is:

261. ℞. Hydrargyri bichloridi, gr. j
Potassii iodidi, ʒiv
Syrupi aurantii,
Aquæ, āā f. ʒij. M.
Five drops for a child about two months old, increased to fifteen or twenty drops, if the disease does not yield.

There need be no apprehensions of salivation, nor other noxious effects of the mercury, even if, as is generally the case, the medicine has to be continued for a long period of time, for the iodide, in this combination, corrects any such hurtful tendency. It is an important point in the treatment, to suspend the medicine altogether, from time to time, as, otherwise, the system will become habituated to its use, and it will fail of its remedial effect.

A well-regulated and sufficient diet must be maintained while the child is under treatment. As a nurse is liable to contract syphilis from such an infant, cows' milk is the best resource, if the mother is not able to suckle it.

Dr. TAYLOR advises strongly against both hypodermic injections and endermic inunctions of mercurials, as uselessly severe and of doubtful results. Locally, for ulcerations, he applies *iodoform* in the cavities, with a covering, to the other parts, of balsam of Peru ointment. Nodes on the scalp may receive daily frictions with mercurial ointment. When they degenerate into abscesses, a free crucial incision should be made, the detritus carefully removed, and the whole thoroughly mopped out with strong carbolic acid; the cavity then to be stuffed with charpie, and cold-water dressing applied. The next day, this should be removed, and the cavity dusted with iodoform. Cold lotions should be continued as long as any inflammatory symptoms remain.

DR. P. BRYNSBERG PORTER, NEW YORK.

This practitioner states (*American Journal of Obstetrics*, July, 1878,) that he has found, as a general rule, the treatment by mercurial *inunction*, to be the most serviceable, usually in conjunction with such tonic or alterant remedies as seemed indicated. It has the great advantage of not interfering with digestion, as is sometimes the case with agents given by the mouth; though he has almost always found minute and somewhat frequently-repeated doses of calomel well borne, especially when their administration was intermitted from time to time. He generally combines the calomel with soda.

DR. EDWARD HENOCH, OF BERLIN.

According to this author, mercury is the only sure remedy for infantile syphilis. Its effects are often astonishing, and neither iodide of potassium nor iodide of iron can be compared to it. He prefers to use calomel and the black oxide of mercury in doses of from $\frac{1}{6}$ to $2\frac{1}{2}$ grains, given morning and evening. The latter sometimes causes emesis, especially at the beginning of the treatment. He regards every other form of administration of mercury improper, including mercurialization of the nurse. Inunction with gray ointment or the subcutaneous injection of corrosive sublimate should only be considered when extensive syphilitic eruptions are not present, or when intestinal complications prohibit the internal use of mercury. When there is marked atrophy, and vomit-

ing and diarrhœa prohibit the internal use of mercury, he resorts to baths of corrosive sublimate (15 grains to the bath). Condylomatous growths he powders with calomel, or brushes daily with a solution of nitrate of silver (one grain to four drachms of water) if they have ulcerated. He also uses this solution for the nasal mucous membrane, if the coryza resists internal treatment.

If the mother is syphilitic, she may, of course, nurse her affected child, but if she presents no evidence of the disease, she should only be allowed to nurse the child if the lips and buccal cavity of the latter present no abnormal appearances. Even the secretion of coryza must be regarded as a not altogether safe factor in nursing from the breast.

DR. ARMAND SEMPLE, OF LONDON.

According to this author, if the mother has previously given birth to syphilitic children, it is advisable to subject her to a mild course of mercury during her subsequent pregnancies. For the infant the most nutritious diet must be afforded; no wet-nurse should be employed, in consequence of the risk of her becoming infected. During the presence of marked symptoms, some mercurial must be exhibited, such as hydrargyrum cum creta or calomel; or this alterative may be conveyed to the system by inunction of mercurial ointment.

A flannel roller may be smeared with ointment and bound round the child, by whose movements rapid absorption is occasioned. *Small* doses of the mercurial should be used, and they should be steadily continued in order to affect the system; but this remedy should be stopped short of salivation, which occurrence is, however, rare in children, and it should be discontinued temporarily, if any gastric symptoms arise. The mercurial may be followed by iodide of iron or iodide of potassium, either separately or together. Liebig's extract of meat and raw beef finely scraped, are often valuable in supporting the strength of the patient. If any sores are present, they may be treated with black wash, and if condylomata are present, they may be touched from time to time with solid nitrate of silver or dusted with calomel.

DR. ARCHAMBAULT, OF PARIS.

This distinguished authority says (*Gazette Des Hopitaux*, 1882,) that "when the child is suckled by its mother or nurse, you have two modes of treatment, the one complementary to the other—the direct treatment of the child, and the indirect treatment of the mother or nurse,

to whom you give the suitable medicinal substances. But this latter mode of treatment is only an adjuvant, and employed alone it would prove absolutely insufficient. How is the infant to be treated directly by mercury? The preferable mode is to administer the sublimate dissolved in water or in milk, with which it will form without any inconvenience (notwithstanding what has been said about it) an albuminate of mercury. Baumès commences with one, one and a half, or two milligrams, progressively increasing the dose to six milligrams in the twenty-four hours; Bertin commences with two milligrams, to reach four, his maximum dose; Cullerier begins with five milligrams; and Bassereau prescribes the dose for an adult reduced to a fourth or a third, which comes to pretty much the same. A milligram and a half seems a very small affair; but if you compare the weight of a child with that of an adult (the mean weight of an infant being five kilograms, while that of an adult is seventy), you will find that the dose advised for infants is comparatively a large one. He ordinarily commences with a milligram and a half per diem, and, according to the condition of the little patient, gradually reaches the maximum of five or six milligrams. All depends upon whether we have to do with a slight syphilis or with grave symptoms. In certain cases, when he has found a true cachexia with gastro-intestinal disturbance, he has begun with four milligrams from the first day. We may employ the *liquor* of Van Swieten, which is a solution of the sublimate in the proportion of a thousandth part, and which allows the quantity of mercury you wish to give to be very easily dosed. Thirty drops of this *liquor* correspond to one milligram and a half of the sublimate, and he prescribes them to be taken in milk, in three doses, morning, afternoon and evening, increasing by two drops every other day, until the maximum is attained. In the infant you do not find, as in an adult, any positive sign of the mercurial saturation of the organism, and the sole rule you have to guide you is the local and general condition of the child. Thus you will no longer continue to increase the dose when you find vegetations subsiding, ulcerations filling up, and spots disappearing, etc.

"Mercurial treatment has been accused of inducing intestinal disturbances and provoking diarrhœa; but it is exactly the contrary of this which takes place, and, save in some exceptional cases, the diarrhœa, which existed prior to any treatment, disappears almost always under the influence of mercury. Still, should the diarrhœa persist, or

should it appear under the influence of a peculiar disposition, you may add, according to its intensity, a half or a whole drop, or even two drops, of laudanum to the *liquor;* or still better, you may prescribe five centigrams of *hydrarg. cum creta* twice a day, to which you may add, if required, half a drop of laudanum. External treatment may be employed either alone, or concurrently with internal treatment; but he only has recourse to it when mercury is not tolerated internally, and on the condition that it is very effectually administered. A gram and a half of mercurial ointment may be rubbed in night and morning, continuing it for a considerable time, and varying the part on which the friction is made, in order to avoid producing eczematous eruptions. For the same reason the frictioned parts should be washed, from time to time, with mild soap. The curative effects of these frictions do not admit of doubt, and in cases of slight manifestation of the disease they may suffice. Nevertheless, whenever it is possible, he associates the internal with the external treatment. Sublimate baths also may be employed as adjuvants to general treatment in cutaneous manifestations of the disease. The dose for an infant is from two to six grams per bath. This may be used even in any metallic bath, on condition of adding ten to fifteen grams of the chlorhydrate of ammonia, or even of simple chloride of sodium, in order to obviate the effects of the decomposition of the mercurial salt in presence of a metal.

"Such is the mode of treating the general accidents of hereditary syphilis in infants, a treatment to which we must add a good hygiene. Thus, alimentation should be severely watched, and especially if the child is brought up on the bottle, which is the case when the mother will not suckle her infant, and under the difficulty there is of finding a nurse who will consent to suckle a syphilitic infant, in the face of the risks she runs, unless she herself has been syphilized. Great care also must be taken to preserve the infant from the impression of cold, which may induce severe intestinal disturbances. It is well known, in fact, that if syphilis is of more frequent occurrence in warm climates, it is also there cured more easily."

DR. THOMAS.

As a means of treatment, this author (*Arch. f. Kinderh*, B. V. H. 3 and 4,) gives the preference in all cases to mercury over iodine. Mercurialization need not be dreaded, for it very rarely occurs. He prefers calomel in doses of from one to three-hundredths of a grain,

three to four times a day. If there is severe diarrhœa, a little opium may be given with the calomel. For condylomata and other skin affections, calomel is also recommended. Sublimate baths (one to three grains to a bath) are also very useful. Care must be taken to prevent the water from getting into the mouth. For children from one to two years of age inunctions are quite proper and efficient; they are not advisable for younger children, because they may produce an eczema. In lieu of calomel, the yellow iodide of mercury may be given two or three times a day, in doses of one-hundredth of a grain. Later, if the symptoms of the disease have not disappeared, a solution of the iodide of iron may be given with advantage.

DRS. MEIGS AND PEPPER, OF PHILADELPHIA.

If the previous children of a mother have proved syphilitic, it is well to subject her to a mild mercurial course during her pregnancy. In the treatment of the infant, every care must be paid to support its strength by the most nutritious diet, if it is unable to suckle the mother. It is, however, improper to employ a wet-nurse, on account of the danger of her being infected by the child. In regard to medicinal treatment, the use of mercury is universally recommended during the presence of marked symptoms. The mercurial may either be given in the form of hydrarg. cum creta, calomel, or bichloride of mercury, in solution in some aromatic water or syrup; or finally, it may be introduced into the system in the form of mercurial ointment by inunction. The most convenient mode of introducing it in the latter form is by smearing a flannel roller with mercurial ointment, and binding it around the child, whose movements cause its speedy absorption. The dose of the mercurial should be small and it is to be continued steadily, though with caution, so as to avoid producing salivation, until a decided improvement in the symptoms manifests itself. During its administration, it will frequently have to be discontinued temporarily, on account of gastro-intestinal irritation. So soon as the mercury is stopped, we should order the iodide of potassium or iodide of iron, either one or both together being employed according to the toleration of the stomach. We should also recommend the use of *cod-liver oil*, and some preparation of cinchona, from an early period in the case; and even when the child suckles, a certain amount of Leibig's cold extract of meat or of raw beef scraped finely should be given.

The best application to the sores is black-wash, though the condylo-

mata usually require to be touched occasionally with solid nitrate of silver.

PROF. J. STEINER, M. D., PRAGUE.

As the result of his extensive experience in the Francis Joseph Hospital of Prague, this writer advises the mercurial treatment in infantile syphilis. The preparation he prefers is *calomel*, which he gives in doses of gr. $\frac{1}{4}$–$\frac{1}{3}$–$\frac{1}{2}$, three or four times a day. If there is anæmia, he combines it with saccharated carbonate of iron; if colic and sleeplessness, with Dover's powder. He also uses calomel, locally, for condylomata, fissures, ulcers, etc.

He believes the calomel acts best on lesions of the skin; but when the bones and viscera are involved, he prefers *iodine*, giving it either as iodide of potassium, or as syrup of the iodide of iron. The long-continued use of any form of the drug, he considers prejudicial; but he has observed a wide difference in the tolerance of the drug in infants. He uses tincture of iodine for a local application to syphilides.

NOTES ON REMEDIES.

Hydrargyrum Tannicum Oxydulatum. Professor Monti, of Vienna, is much pleased with this preparation in cases of hereditary infantile syphilis. The tannin prevents the diarrhœa, which so often occurs in the exhibition of calomel and other salts. His formula for infants is:

262. ℞. Hydrarg. tannic oxyd., gr. iss–iij
Sacch. alb., gr. xlv. M.
Div. in pulv. No. x.
S.—A powder every two or three hours.

(*Archives of Pediatrics*, 1884.)

INFLUENZA.

DR. FILATAFF, OF RUSSIA.

This author considers (*Medic. Oborsen*, 1883,) that the occurrence of influenza during childhood has not received the attention which it deserves in text-books on diseases of children. He defines influenza as a febrile epidemic catarrh, which attacks simultaneously or in succession the mucous membranes of several organs. The younger the child, the more severe the disease is apt to be, prevailing most frequently among children from six months to five years of age. Taking cold has more or

less influence in developing the disease, though it is likely that it is propagated by a *contagium* of some sort. The period of incubation is from one to three days. As to differential diagnosis, acute simple bronchial catarrh is chiefly to be considered, and influenza is to be distinguished, (1) by its propagation as an epidemic; (2) by the simultaneous affection of the mucous membranes of other organs; (3) by the intensity of the fever and cough, which are not like those of ordinary catarrh; (4) by the long duration of the catarrh; (5) by the participation of the nervous system in the disease. The moderate reddening of the pharynx, without the presence of points or patches, will distinguish it from measles. In addition the frequent sneezing of measles is absent. Should the influenza co-exist with continuous fever and diarrhœa, typhoid fever may be suspected. But in the former the cold in the head will persist from the beginning, while the coughing will precede the diarrhœa, and the extraordinary irritability of the patient will be a pronounced feature. As prophylactic treatment, protection from colds is recommended, and also cold baths. With delicate children, a prolonged sojourn in the country will have a prophylactic effect. Large doses of quinine at the beginning of the disease sometimes have a curative effect. Apomorphia is recommended for the dry cough. When pneumonia of long duration has complicated the disease, a change of climate is urgently demanded.

INTERTRIGO.

M. KLAMM.

This author (*Medical and Surgical Reporter*, 1882,) recommends the following as very effective in all forms of intertrigo in infants.

263. ℞. Magnes. calcin., ℥ij
Talc. powder, ℥iv
Acid. salicyl. pulv., ʒ ss. M.

All the ingredients, particularly the magnesia, should be reduced to very fine powder. Salicylic acid may often be advantageously replaced by boracic acid. This powder has also been often employed with very great success against the various forms of *erythema* and *eczema*, which are developed about the anus in young children, under the influence of

diarrhœa. It is of great benefit too, in *seborrhœa of the scalp*, *in ulcers of the lower limbs*, and as an application to *vesicated surfaces.*

DR. WERTHEIMBER, OF MUNICH,

Recommends (*La France Médicale*, 1880,) washing the child with soap and warm water, giving it bran baths, and powdering the healthy skin with lycopodium or a mixture of equal parts of oxide of zinc and subnitrate of bismuth. On the affected parts, he prefers the unguentum diachyli of Hebra, with olive oil. In old-standing cases he makes application three or four times a day of a solution of bichloride of mercury gr. j–℥iv.

DR. GEORGE HENDY, OF MICHIGAN,

Dusts the affected parts with finely powdered red cinchona bark, after washing well and drying, not by rubbing, but by dabbing with a soft towel. If the alvine evacuations are acid or in any way irritating, he corrects them. The application of the powder is made every time the child is changed, and at no time are soiled or wet diapers allowed to remain on the parts. (*Med. and Surg. Reporter*, 1880).

INTUSSUSCEPTION.

DR. EDWARD HENOCH, OF BERLIN.

By far the largest number of invaginations in childhood occur during the first year. The diagnosis of this condition depends chiefly on the association of three symptoms; viz.: constipation, vomiting, and escape of blood from the anus. As a rule the disease begins suddenly, in the midst of perfect health, with violent cries, great restlessness, repeated vomiting and constipation. Purgatives and enemata are ineffectual; the latter are immediately evacuated, and an escape of blood from the anus frequently occurs on the first day, and almost always later in the disease. At first it is mixed with fæces, later with mucus, but may also be discharged pure, in part coagulated, in varying quantity. Tenesmus is rarely absent, and five, six or more passages often occur in the course of a day. During the first twenty-four to forty-eight hours the abdomen may retain its usual shape and softness, but then it usually becomes tense, tympanitic and tender. So long as the abdomen is soft

and its walls yielding, we can detect by palpation the tumor produced by the invagination, not so, after it becomes tense. Occasionally, by introducing the finger into the rectum, we can feel the rounded tip of the intussusception. In the unfavorable cases, which constitute the large majority, there is increased meteorism, constant whimpering and crying, which finally give place to complete apathy, cool cheeks and extremities, small and extremely frequent pulse and finally, fatal collapse after an average duration of the disease of from four to eight days. In favorable cases, there is restoration of the invagination, with discharge of flatus and fæcal evacuations, or necrotic desquamation of the invaginated portion of the intestine, with formation of a more or less normal intestinal lumen, and a corresponding shortening of the canal. He would advise in all cases the trial of ice-water enemata, used every hour or two, and still more profuse irrigations of ice-water, even though it be immediately ejected again. By the mechanical pressure of the fluid, this plan may effect the same object which is sought by other mechanical methods of reduction, viz.: blowing air into the intestines with bellows, and the introduction of a whale-bone bougie, armed with a sponge, with which the attempt is made to thrust the invagination felt in the rectum upwards. A small number of cases have been cured by these methods, and no opposition can be made to their cautious employment, when they are discontinued forthwith, if they do not soon prove successful. The danger lies in the fact that we can never foretell whether the intussusception is still reducible or has become fixed from adhesion of both serous layers (of the intussusception and of its so-called sheath). In this event, every forcible attempt at reposition may cause rupture of the adhesions and the serous membrane itself, the effects of which cannot be calculated. Pain may be relieved by small doses of opium or morphia. The diet should consist of wine and iced milk, given in spoonfuls. In a few cases it has been said that holding the patient up by the legs or massage of the abdomen, especially in the situation where the tumor is felt, has produced reduction of the latter. In desperate cases, laparotomy, followed by disentanglement of the intussusception or the formation of an artificial anus, has proven successful in a few exceptional cases; but, after finding the invagination, it is almost always impossible to withdraw it from the lower portion of the intestine.

DR. W. R. GILLETTE, OF NEW YORK.

This physician states, in the *N. Y. Medical Journal*, 1882, that he has succeeded in curing three cases of intussusception in infants by the administration of chloroform, injections of warm water and the application of massage to the mass felt through the abdominal walls. He knows of two other cases, where all the usual measures failed and reduction was effected by chloroform and massage. The children, in all these cases, were held, and the injections forced into them against all voluntary and involuntary efforts that they could make. In one case the gut had been invaginated for forty hours, and in another for three days. In one case, the water, after three or four bulb-fulls were thrown in, was ejected. This was repeated constantly; it seemed almost impossible to get the gut to retain any water. Finally, an assistant resorted to massage (the child being under chloroform). Immediately there was a roar of rushing wind and water, and a large amount of water forced in and was apparently retained. The child was laid down, and warm bottles put around it, to rally it after the ordeal; the bowels were moved in a short time, and a rapid recovery ensued.

DR. A. GEIGER, OF OHIO.

This physician reports (*Medical and Surgical Reporter*, 1881,) a case of intussusception in an adult that was cured by injections of cold water.

DRS. MEIGS AND PEPPER, OF PHILADELPHIA.

According to these authors there is no special plan of treatment for intussusception deserving the name of *preventive*, owing to our ignorance of any symptoms which can be definitely regarded as the precursors of the invagination. The fact, however, that various derangements of digestion, such as pain upon going to stool, diarrhœa, or constipation alternating with diarrhœa, have been occasionally noticed to precede the attack, should be an additional motive to urge us to meet these symptoms by the most assiduous attention to the hygiene of the child and to the regulation of its alimentary functions.

The curative treatment may be divided into three classes, the medical, mechanical, and surgical treatment.

Medical Treatment.—Depletion is strongly contra-indicated by the tender age of the patients, and by the necessity of preserving the vital powers; since elimination, which affords the principal chance of re-

covery, does not occur until after the eighth day. In order, however, to relieve the engorgement at the point of constriction, without reducing the strength of the patient, it is advisable to apply a few leeches, or cups to the abdomen, and preferably to the right iliac region, unless a tumor can be detected, when they should be applied over its seat.

During the early stage of the attack, before the symptoms of intussusception are very positively developed, they advise the administration of a mild, but thorough laxative, such as castor oil, in conjunction with large laxative enemata. If, however, at the end of twenty-four or forty-eight hours, the administration of these remedies, aided by the local depletion, has failed to produce an evacuation from the upper bowel, these measures should be abandoned, and recourse be had to means of calming pain and nervous disturbance, and to the sustentation of our patient. Among the best remedies to accomplish these results are opium, warm anodyne poultices to the abdomen, and warm baths, carefully given. These latter are especially serviceable, when the symptoms of nervous disturbance are marked, even amounting, as they occasionally do, to general convulsions. In endeavoring to sustain the child's strength, attention must be paid to the vomiting, which is generally so severe as to prevent any nourishment being retained. The remedies of most service against this are counter-irritants to the epigastrium, opium, hydrocyanic acid, carbonated water, small pieces of ice kept constantly in the mouth or swallowed whole. Nutritious enemata may be tried, but they are rarely retained.

The *mechanical* treatment consists in the injection of fluids or air into the bowel in such quantities as to distend it; and in the introduction of a large sound, with the view of pushing up the invaginated portion of the intestine. The fluid may be introduced by an ordinary syringe, the limbs being held together so as to prevent as far as possible any reflux. SIMON recommends hydrostatic pressure, as follows: a glass funnel attached to a long india-rubber tube terminating in an olive-shaped plug is used. The plug is inserted in the anus, and the funnel is held on a level with the body, and water is poured in until it is filled. The funnel is then gradually elevated, and more and more water poured in to replace that which is forced by hydrostatic pressure into the bowel. Owing to the gradual and uniform increase in pressure thus brought about, extreme distention of the entire colon can thus be produced.

To introduce air, we can use a pair of ordinary bellows; the nozzle being inserted well into the rectum, and inflation being continued until the obstruction yields. The return of the invaginated intestine is sometimes attended by a clearly audible sound, a species of crack, but it never gives any pain and has generally seemed to afford relief. The complete restoration of the calibre of the intestine is proved by the copious feculent stools, which frequently come away soon after the inflation. To obtain the best results, inflation should be employed early in the case, before any considerable amount of adhesive inflammation has taken place between the sheath and the contained intestine. Dr. NIESSEN has recommended the pushing up of the invaginated portion by means of an œsophageal sound protected by a sponge. This proceeding, our authors consider, would probably be readily accomplished, if the intussusception occurred far down in the large intestine; but it would appear very difficult to replace in this way, an invagination as high up as the ileo-cæcal valve.

The *surgical* treatment consists in the performance of the operation of gastrotomy, finding the invaginated portion of bowel and reducing it by gentle traction. Our authors have seen that in the majority of cases the invaginated portion of bowel will be found in the neighborhood of the left iliac fossa. The great danger of the operation is, of course, apparent, but should hardly be considered an objection, when we consider the fatal nature of this affection. Our authors thus sum up. After having tried for two or three days the medical and mechanical means recommended without success, we must forbear and decide whether to trust the case to nature, with the hope of elimination of the invaginated bowel occurring, or to resort to gastrotomy. And in this decision, the circumstances of each case must be taken into account; for, if the case has not yet progressed so far that adhesive inflammation has certainly taken place, and if we are able to detect the exact seat of constriction by the presence of a tumor, the operation certainly has strong arguments in its favor, and should not be hastily rejected. In those cases which have been trusted to nature, and when elimination has fortunately occurred, we must treat the child, during this crisis, with the utmost care. The diet must be rigidly regulated, and the child kept in absolute repose. Nor must we relax these precautions for several weeks, and allow either indigestible food, or too large a meal of even the most digestible articles; since death has been several times known to follow this imprudence, from a rupture of the imperfectly-formed cicatrix.

LARYNGITIS (ACUTE).

DR. E. FLETCHER INGALLS, OF CHICAGO.

According to this author (*Chicago Medical Journal and Examiner*, 1880,) acute laryngitis in young children requires more vigorous treatment than in adults, because of the small size of the larynx, and the greater liability to spasm of the glottis. In treating these cases the warm bath should be used at first, to relieve the engorgement of the mucous membrane and tendency to spasm. The atmosphere of the room should be kept moist by steam, and the temperature kept up to 80° F. or 85° F., and when possible, the little patient should be induced to inhale steam from the atomizer. Frequently, young children become very much alarmed by the atomizer, when brought close to their faces, but they will get some benefit from it though it is placed three or four feet away. A great deal of benefit will frequently be derived from warm applications, care being taken to keep the parts constantly warm and moist. For this purpose, poultices of flaxseed are as good as anything; or you may use cloths wrung out of hot water, or spongiopilin with warm water, which latter is an elegant application. Whichever of these is employed, it must be kept constantly hot, for if allowed to cool it will do more harm than good. If these cannot be kept warm, it is much better to apply dry cloths. Turpentine stupes to the neck have also been found beneficial. If there is much tendency to spasm, the compound syrup of squills may be given, or small doses of belladonna, which not only relieve the spasmodic tendency, but possibly have some specific curative effect on the mucous membrane of the throat.

If œdema comes on, you should make an effort to scarify the part; but generally this cannot be effected in young children; failing in this, by passing the finger over the base of the tongue you will sometimes be able to tear the mucous membrane with the nail, and thus allow the serum to escape. If you cannot relieve the œdema, and the dyspnœa continues to increase, do not hesitate to resort to tracheotomy, which holds out very good chances for recovery.

In a few rare instances of acute laryngitis in young children, the dyspnœa seems to be due to inflammation of the posterior crico-arytenoid muscles, which are the abductors of the vocal cords. The glottis, during respiration in health, is a triangular chink; but with paralysis

of these muscles, the cords are drawn together during inspiration, so as to greatly interfere with the ingress of air. In one case of this sort, reported by Dr. J. Solis Cohen, it was found that the application of ice-bags to the neck every minute for about eight hours, succeeded in inducing reflex respiratory movements, which carried the child over the critical period.

DRS. MEIGS AND PEPPER, OF PHILADELPHIA.

The most useful internal treatment that our authors have found has been the exhibition, three times a day, of a fluid-drachm of one of the following mixtures, diluted with a little water:

264. ℞. Potass. carbonat., ℈j
Tinct. opii, gtt. xxiv–xlviij
Syr. senegæ, f.℥ij
Syr. tolutani, f.℥vj
Aq. fluvial, f.℥ij.
Ft. sol.

265. ℞. Ammonii bromidi, gr. lx–xcv
Ammonii muriatis vel potassii chloratis, gr. xlviij
Tinct. opii deodoratæ, gtt. xxiv–xlviij
Syr. scillæ, f.℥iij
Elix. calisayæ, f.℥j
Aquæ, q. s. ad f.℥iij.
Ft. sol.

LARYNGISMUS STRIDULUS.

PROFESSOR WIDERHOFER, OF AUSTRIA.

In a clinical lecture (*Allgemeine Wiener Medicinishe Zeitung*, 1884,) Professor Widerhofer recommends traction of the tongue during the attack, to prevent closure of the glottis, or sprinkling water in the face. In the intervals, he gives bromide of potassium and regards this as almost a specific for these spasmodic attacks. The remedy must be given in rather large doses, four grains morning and evening, gradually increased to eight grains. In one or two days, he claims, the attacks will have wholly ceased to occur.

DR. W. H. DAY, OF ENGLAND.

According to this author's teaching, found in the *Medical Press and Circular*, 1880, the first indications are to remove all exciting causes. If the bowels are disordered they should be set right as soon as possible by proper aperients, and healthy digestion promoted. If the child

has taken a heavy meal, or indigestible food, an emetic may be advisable; and should the gums be swollen, and dentition appear to invite the complaint, they ought to be scarified. The child should occupy an airy apartment, and noise and excitement be precluded. If seen during the paroxysm it should be kept in an upright position, and the windows opened, so that it may be encouraged to breathe. In severe cases, especially if a convulsion threaten, it may be immersed in a warm bath, while cold water is sprinkled at the same time over the face. Dr. Morley Rooke recorded a case of laryngismus stridulus in a child nine months old, where occlusion of the larynx during the fit produced symptoms like those of "a recently drowned person." The little patient "showed no sign of life," when first seen in the seizure; the lips were blue and swollen, the face a livid gray, and the eyes half closed and glassy. Dr. Rooke thrust his finger between the teeth to the fauces, when the child gave a short heave and a gasp; on repeating the movement inspiration took place, and in a few more seconds breathing ensued. On two more occasions, when occlusion of the larynx was equally severe, a similar manœuvre brought round the child. This is a mode of treatment well worth bearing in mind when the child threatens to die from spasm of the glottis. The cure was completed by bromide of potassium, which was taken for eleven months. Dr. Wardell also points out the beneficial effect of "rotating the finger in the throat" in these cases; it induces an attempt to vomit, when the laryngeal muscles become relaxed, and air is admitted into the trachea. He says it is the first thing to be done, and he has seen it succeed when death seemed imminent. In extreme cases, where death threatens from asphyxia, the operation of tracheotomy should be employed. The inhalation of chloroform has been recommended in some cases, but then its influence soon passes off, and it cannot be said to have any curative effect. When there is much restlessness, and the child can obtain no sleep, the excitability of the nervous centres must be calmed, and for this purpose small doses of morphia may be cautiously employed. In the intervals of the seizures the bowels must be kept freely open, so as to remove all sources of irritation that might sympathetically excite spasm.

Among the chief drugs are belladonna, in the form of extract or tincture, which sometimes has the effect of diminishing the glottic spasm, but in most cases it fails altogether. Bromide of potassium is very serviceable given with citrate of potassium, sal volatile, or quinine

according to the peculiarities of each case. Carbonate of ammonia, henbane, bark, and mild preparations of iron, as the ammonio-citrate, or the syrup of the iodide, are remedies to be selected. If the child is strumous and rickety, or in any way delicate, cod-liver oil is invaluable. It is a remedy which ought to be persevered with, as by improving the general health we may so keep off the disease.

Diet is of great importance, and, when carefully selected, the disease may disappear without drugs. If the child is fed at the breast, it is sometimes advisable to change the nurse or to give cow's or ass's milk. If older the food must be light and nutritious, and given frequently, in small quantities. The clothing should be warm, and if the child is not too ill, he ought to be taken out in the open air daily.

DRS. MEIGS AND PEPPER, OF PHILADELPHIA.

When the disease seems to immediately depend upon difficult dentition, the gums ought to be carefully watched, and freely scarified, so soon as there is the least heat or swelling over the advancing teeth. When the disease depends on gastric irritation, the result of an unhealthy milk or of artificial diet, our attention must be directed chiefly to removing these conditions. When the child is thin and pale, and the stomach evidently weak and dyspeptic, it is well to resort to small quantities of stimulants, and to tonics in proper doses. The best stimulant is fine old brandy, of which from ten to twenty drops may be given three or four times a day, or every two or three hours. Or we may administer the aromatic spirits of hartshorn, with or without brandy; of this, about ten or fifteen drops should be given four or five times a day. Of tonics, the most suitable, are quinine, in the dose of a quarter to half of a grain, three or four times a day, or the citrate of iron and quinine, in the dose of half a grain, given in the same way. Another very excellent stimulant and tonic is Huxham's tincture of bark, of which about five to fifteen drops may be prescribed in the place of brandy. When the disease is associated with marked intestinal irritation, we must inquire carefully into its nature and cause. It may be connected with constipation, diarrhœa, or with an unhealthy state of the contents of the bowels. It is often dependent upon the presence of crude or imperfectly-digested articles of food in the alimentary canal, and when this is the case, the only proper method of treatment is to attend to the state of the digestive functions, and to discover

and employ a proper diet. The bowels are frequently very torpid, and the stools, when obtained by medicine, are often found to be very offensive, light-colored, and pasty, conditions generally resulting from imperfect action of the liver. Under these circumstances, small doses of mercurials, or taraxacum, should be resorted to in combination with or followed by light aperients, as castor oil or rhubarb. One of the very best cathartic remedies, when this combination of symptoms is present, is Chaussier's mixture of castor oil and aromatic syrup of rhubarb, consisting of three parts of the former rubbed up with five parts of the latter. The dose is a teaspoonful every two or three hours, until the bowels are well evacuated. It is gentle in its action, and yet very efficient, gives no pain, and is easily taken. If a mercurial be desired, about two or three grains of blue mass, one or two grains of calomel or four grains of the mercury with chalk, may be incorporated into the mixture. When diarrhœa is present, it must be treated according to its causes. When, on the contrary, constipation is a marked symptom, this is to be treated by regulation of the diet, by the daily use of warm water enemata, or, if these do not answer, by the exhibition of small doses of the mildest aperients. In cases apparently connected with enlargement of the bronchial or cervical glands, the treatment should be directed to the invigoration of the general health by attention to diet, by the use of tonics and by proper exposure to fresh air, whilst we should employ internally, cod-liver oil, iron, iodide of potassium, the preparations of iodine and anti-spasmodics. When the disease persists, in spite of the means recommended, and especially when it depends on dentition or digestive irritation, change of air will often produce a wonderful effect, and should always be tried.

MAMMARY GLAND; ENLARGEMENT OF.

DR. EDWARD HENOCH, OF BERLIN.

According to this writer the secreting mamma may become the site of diseased processes in the new-born, as in the adult woman. The local process may simply become intensified into inflammation, which first causes enlargement of the gland, and may then lead to the formation of abscesses. He simply covers the tumor with cotton dipped in oil. If redness and suppuration occur, the discharge of the abscess may be hastened by warm cataplasms and incision.

MALARIA.

DR. W. T. TAYLOR, OF PHILADELPHIA.

This author describes a condition of "weak spells" occurring in infants as the result of malarial poisoning. In a case which he reported to the Obstetrical Society of Philadelphia, 1884, the mother suffered from malarial fever during pregnancy and was obliged to take quinine. When the child was one week old, it had "weak spells," accompanied by coldness of the skin and prostration, lasting fifteen to twenty minutes. These attacks had a periodicity, occurring every two or three days. Under the use of elixir of cinchona to the child and quinine to the mother, the attacks ceased. Dr. R. P. HARRIS related a similar case.

DRS. MEIGS AND PEPPER, OF PHILADELPHIA.

According to these authors, children, even at a very early age, bear full doses of quinia very well. The amount which they have usually found necessary to arrest an attack of intermittent fever is three grains daily for children of one year of age or under, and one grain additional for each succeeding year, though they have given as much as five grains by the mouth in the course of the day to children of ten months, and without the slightest ill effect. It may be administered in the form of powders, containing one-half grain, mixed with an equal amount of sugar and powdered extract of liquorice, repeated as necessary, and given at such times as to bring the system thoroughly under the influence of the drug, before the hour at which the accession of the fever has been noticed. Some children, however, will not take the powders without difficulty or nausea, and the quinia may then be given simply suspended in syrup of liquorice or in the following combination.

266. ℞. Quiniæ sulph., gr. xxiv
Acid. sulph. diluti., gtt. xxx
Syr. zingiberis,
Syr. simplicis,
Aquæ, āā f. ℥j. M.
Ft. sol.,
S.—Teaspoonful three or four times a day, according to age.

If, however, the stomach rejects it in all of these forms, the administration by enema of two grains of quinia in a tablespoonful of starch water, three times a day, will be equally successful. We may also re-

sort to the use of suppositories, which, when neatly made with the butter of cacao and of small size are perfectly well tolerated, as a rule, even by very young infants. A small amount of dilute sulphuric acid, about one-half of a drop to each grain should be added to the quinia in either of these modes of administration to favor its solubility and absorption.

In ordinary acute cases, no other treatment is required. It may be well to give a few doses of some saline febrifuge each day, until the fever is entirely subdued, and, of course, any special disturbance of function must be relieved by appropriate remedies. The treatment of pulmonary complication must be subordinate to that of the general disease. All depleting or perturbing treatment must be avoided, and it will generally be found that with the aid of mild counter-irritation, the local symptoms will begin to improve, after the malarial fever has been subdued by quinia. It is necessary to keep up the action of quinia for some time after the paroxysms are broken, because the tendency for the disease to recur is fully as great in children as in adults. Our authors are in the habit of continuing it for three or four weeks, in diminished doses, giving, however, on each septenary period, dating from the arrest of the paroxysms, the full antiperiodic dose, suited to the age of the patient.

At the same time the child should take suitable doses of iron and arsenic, which may be conveniently given in the following form:

267. ℞. Liq. potassii arsenitis, f. ℥j
Vin. ferri Amari, f. ℥iij. M.

S.—From a half to a whole teaspoonful thrice daily, in water, after meals.

In chronic malaria, we must persist in the use of quinia, iron and arsenic for a considerable period. At the same time careful attention must be paid to securing the best possible hygienic influences for the child. When practicable, a change of climate should be secured by a journey to the mountains or the sea-shore. The patient should be warmly dressed and carefully guarded against all exposure to damp or cold. The diet should be carefully selected and every error of digestion promptly corrected. Even after the child is apparently restored to health, it should not be allowed to return to the locality where it contracted the disease, and for several successive springs and autumns should take a short course of quinia and arsenic. In the treatment of enlargement of the spleen, which frequently occurs in chronic malaria,

our authors have obtained excellent results from the use of hypodermic injections of ergotin into the subcutaneous tissue of the abdominal wall.

DR. HOLT.

In the *American Journal of Obstetrics*, for 1884, this author tells us that malaria in early life presents symptoms peculiar to that period, and differs from the same disease in adults as widely as does pneumonia. In any acute febrile disease, presenting an unusual course, the spleen should always be examined. It may be the cause of obstinate cases of diarrhœa or bronchitis, not affected by ordinary remedies, especially if these symptoms show a tendency to periodicity. Spells of drowsiness and frequent attacks of epigastric pains should always excite suspicion.

MELÆNA NEONATORUM.

DR. EDWARD HENOCH, OF BERLIN.

This disease, which is not common, is characterized by hemorrhages from the stomach and bowels, usually from the first to the seventh day after birth, rarely later. Recovery may occur though the hemorrhage has been profuse enough to cause symptoms of collapse, general coldness, disappearance of the pulse, and upturning of the eyeballs. He always endeavors, therefore to check the hemorrhage, even under the most unfavorable circumstances. The application of cold fomentations or an ice bag to the abdomen, and warm flannel to the arms and legs is to be especially commended. If the children cannot take the breast, milk, cooled in ice, should be given by the spoon. Liquor ferri sesquichlor. (one drop every two hours in a teaspoonful of oat-meal gruel) should be given. With regard to prophylaxis, he warns against the too early ligature of the umbilical cord, which should only be performed after respiration has been thoroughly performed and vigorous cries have been uttered.

MENINGITIS—ACUTE.

DR. WILLIAM T. PLANT, OF NEW YORK.

This author considers that if you are clever enough to recognize the disease at its invasion, there is some little hope (*N. Y. Medical Journal*, 1883). The child should be kept quiet in a darkened room, and spared all causes of annoyance and worriment. The diet should be as nutritious as the child will take. Milk, cream and meat broths are best. A hot mustard foot-bath lessens the crebral congestion and soothes the child. It may be used as often as four or five times in the twenty-four hours. Keep the feet and legs warm by bottles of hot water or other means. If there is a heavy growth of hair, it should be thinned, and cloths, not too thick, wrung from iced water and changed often, so as to make constant impression of cold, may be laid upon the head. When there is intense heat of head, bladders of pounded ice may be applied, some layers of cloth coming between the ice and the scalp. Correct constipation by an agreeable laxative, but beware of hypercatharsis. Iodide of potassium is the only drug that has any effect. It should be early and continuously given in doses of from two to five grains. To relieve the headache and ward off convulsions, bromide of potassium is the best remedy. When there is great restlessness chloral may be combined with the bromide. Give them boldly, until the purpose is effected. Valerian tends to quiet muscular twitching. It is better to dispense with opium, but in some cases the agony is so great, that hypodermics of morphia must be given. A child with inherited tuberculous or scrofulous tendencies should be well looked after, especially if it begins to exhibit those vague but growing evidences of poorliness, that are so often precursory to this affection. Cod-liver oil should be given, a half teaspoonful or more ter die. Stimulants are in order—Bourbon or brandy with milk. If there are moist eruptions about the head and face, he would not attempt to dry them by local applications, but rather trust them to disappear with the improvement in the general condition.

M. VOVARD, OF BORDEAUX.

According to this author (*Gazette des Hôpitaux*, 1883,) the following method of treatment has yielded good results, in cases that are not complicated with tuberculosis: The child's head is shaved, and a thin layer of croton oil is spread over the scalp with a soft brush, after

which the head is covered with a linen cap. This procedure is repeated three times daily until an abundant pustular eruption results. Next, beet-root leaves are sewed into a small hood with which the head is covered, this also being done two or three times a day. At the same time iodide of potash is given in reasonable doses. The result of this treatment will depend upon the extent and duration of suppuration. The author saved eleven out of thirty cases by this method.

DR. EDWARD HENOCH, OF BERLIN.

According to this author, antiphlogosis plays the principal part in the treatment of meningitis. Even here many authors dread bleeding, but this must be regarded as a grave sin of omission. The bleeding must be regulated by the general condition of the patient. In small, poorly nourished, anæmic children, two to four leeches should be applied, according to the age of the patient, and the bites should not be allowed to bleed afterwards. In older children, especially if robust, six to ten leeches, or an equal number of wet cups, to the neck or spine are requisite. So long as symptoms of collapse are absent, an ice-bag should be constantly applied to the head, inunctions of ung. ciner. mercur., every three hours, applied to the neck, back, arms and legs, and calomel given internally (gr. $\frac{1}{4}$–ss every two hours). When there is great restlessness or convulsions, he resorts to injections of morphia or chloral hydrate, and also to lukewarm baths, with cold affusions to the head. He always uses iodide of potassium after the termination of the acute stage.

268. ℞. Potass. iodid., gr. xv–xxx
Aq. destil., f.℥iij
Aq. menth. pip., f.℥v. M.
S.—Dessertspoonful three or four times a day.

During the continued use of this remedy, he has frequently seen children gradually awake from the comatose state, the contractures disappear and complete recovery finally occurs.

DR. J. CHEWNING, OF ILLINOIS,

Reports good results from the use of salicylic acid (*Medical and Surgical Reporter*, 1884). He uses it in doses of from ten to twenty grains every six hours. Dr. D. C. Ramsey also recommends it very highly.

DRS. MEIGS AND PEPPER, OF PHILADELPHIA.

Our authors think it must be evident that but little dependence can or ought to be placed on any but prompt and powerful *antiphlogistic* treatment. *Depletion*, therefore, *mercury*, *cold* applications to the head, *laxatives*, *counter-irritants*, and the most rigid diet, ought to be employed from as early a period as possible. If there is any case, excepting those in which venesection is indicated for the relief of mechanical engorgement of the right heart, when general bleeding would appear to be preferable to local depletion, acute simple meningitis in a vigorous child may be cited to be such. The amount of blood to be drawn must depend upon the age and constitution of the subject, and the violence of the attack, in some measure, though it should always be as much or more than is necessary in any of the other acute affections of childhood. In a child two years old, of good constitution, from two to four ounces would not be too much at first; and should the symptoms not moderate in six or eight hours, as much more may be taken. The application of *cold* to the head is another most efficient remedy. We may use a bladder, containing water and pounded ice, or cloths wrung out of ice-cold water. If there is reason to suspect undigested matter in the alimentary canal, we may give a dose of castor oil, citrate of magnesia or rhubarb. It is well to give calomel in small and frequently-repeated doses until the bowels are moved, and afterwards to continue it in still smaller doses, given at longer intervals, to secure its specific influence on the inflammation. Iodide of potassium should be given in full doses, as soon as the calomel is suspended, or from the beginning, in case this latter remedy is not employed. Bromide of potassium and bromide of sodium, are the most valuable sedatives in the acute stage of this disease, when marked symptoms of cerebral excitement or a tendency to convulsions exist. The doses should be full and frequently repeated, as, for instance, at one year of age, from three to five grains every two or three hours.

Counter-irritants are useful as adjuvants to the more powerful remedies already indicated. During the first day or two they should consist chiefly of sinapisms and mustard poultices, applied from time to time to the trunk and extremities. We should not use blisters until the active symptoms of the disease have been subdued. They may be applied to the head itself, to the nucha or to the extremities.

MENINGITIS—TUBERCULAR.

DR. EDWARD HENOCH, OF BERLIN.

This author considers that all physicians who are conscientious in making a diagnosis, will regard every case of tubercular meningitis as lost. However, the possibility of recovery cannot be denied. In the first few days of the disease, he applies, according to age, from three to six leeches behind the ears and an ice bag to the head, giving calomel (gr. $\frac{3}{4}$ every two hours) and compound infusion of senna, if the evacuations are not profuse, and orders inunctions of unguent. ciner. on the throat and neck a couple of times a day. Although we can hope for success from this treatment in only very exceptional cases, it cannot prove injurious in a disease which always proves fatal when left to itself. If not adopted in the first few days of the disease, all methods are useless.

DR. HENRY GREENWAY, OF ENGLAND.

This author has found (*British Medical Journal*, 1884,) that phosphorus seems to have some control over tubercular meningitis. He used Fauconnet's syrup of phosphorus, a French preparation. For children, he prescribes from one to two minim doses of the phosphorus-syrup for each year of age, the dose to be repeated every four hours whilst necessary. The drug should be dispensed, mixed with simple syrup, so that a teaspoonful shall contain the required dose. This should be afterwards diluted with water if the proportion of the drug be large. He supposes that certain other preparations of phosphorus would prove equally useful. He has not had occasion to treat an adult for this affection, but thinks the dose for such patient should not exceed thirty minims of the drug. Perhaps less would suffice.

DR. CHARLES W. EARLE, OF ILLINOIS.

In the *Chicago Medical Journal and Examiner*, 1879, this author very truly says that in almost every case in which the disease is fully developed, death is the final result, and only in prophylaxis can a physician obtain any results at all satisfactory. The presence of the tubercular or scrofulous diathesis may in a great number of cases be removed, if one could but have the hearty co-operation of the parents. Mothers with this peculiarity should be informed in regard to the probable taint

they are to communicate to their offspring, and everything in the way of nourishment and nutritious medicaments should be administered. It is quite possible that such mothers should not be allowed to nurse their children, although he is always unwilling to deprive any child under the year of its proper maternal food—"a food for which nature does not afford, nor can art supply a substitute"—unless there is some grave reason for such deprivation. Children in whom there is the faintest possibility of such a taint, should be given the benefit of the country air, if possible—good hygienic surroundings, perfect nutrition—especially a sufficient dietary, for, in this blessed land of ours, children do starve to death. Diseases which produce a tendency to the diathesis, should be prevented by avoiding the opportunities of receiving the contagion into the system. It is wholly impossible to prevent all children from coming in contact with whooping cough, measles, diphtheria, and the like; but there is no reason why the effort should not be made with this peculiar class of children.

They should have the benefit of cod-liver oil and syrup of the iodide of iron—the malt and hypophosphate preparations. Above all we should not, because a child is slightly tubercular or scrofulous, despair of either staying the disease or of ultimately restoring to the anxious parents a healthy and robust child. The hopeless pathology of fifty years ago, indeed, gave no hope, but more recent conclusions give a brighter future. While it is doubtful if tubercle in the brain is ever cured, it has been abundantly shown by NIEMEYER and others that in other parts of the body it is amenable to treatment, and that by several modes recovery does take place.

PROPHYLACTIC TREATMENT.

DRS. MEIGS AND PEPPER, OF PHILADELPHIA.

Our authors consider that it must be evident that the prophylactic treatment is of special importance in a disease so little amenable to curative measures. When, therefore, there is reason to suspect a tendency to tubercular meningitis in a child, either from the fact that other children in the family have perished from it, or from a bad state of the general health, and frequent complaints of headache, it becomes proper and necessary to regulate both the moral and physical education with a view to its prevention. For this end the hygienic management of the child ought to be such as is best calculated to prevent the for-

mation or development of tubercles in the constitution. During infancy, such a child should be nursed, if this be possible, by a strong, hearty woman, with an abundant flow of milk. If the mother is not possessed of these qualities—if there be, indeed, the least doubt upon the point—she ought to give up nursing herself and procure a wet-nurse of the kind described. This alone will, in all probability, often make a difference between a vigorous and a fragile constitution. When the time for weaning arrives, the change ought to be made with the greatest care and circumspection. During and for some time after weaning, the diet must consist principally of milk preparations and bread, and of small quantities of light broths, or of meat very finely cut up. As the child grows older, the meals ought to be arranged at regular hours, and should consist of four in the day. The principal food must be bread and milk, well chosen, well-cooked meats, and rice and potatoes as almost the only vegetables. After the first dentition is completed, a moderate use of ripe and wholesome fruits may be allowed, but always with care, in order to avoid injury to the digestive organs, and also so as not to mar the appetite for more wholesome and nutritious food. *Coffee* and *teas* ought to be forbidden at all times; since, when the palate of a child, is taught, by habit, to become accustomed to these more highly sapid substances, it is very apt to abandon the use of milk, which ought to constitute a very large proportion of its food, at least up to the age of twelve or fifteen years. The child should not taste improper articles of food, so that it may escape the torment of desiring what is improper.

After diet, the most important points in the treatment are air and clothing. The child should inhabit, if possible, a large, dry, well ventilated room, which ought to be kept as cool as possible in summer, and moderately warm in winter. Not a day should be allowed to pass, unless the weather is totally unfit, without the child's being sent for several hours into the open air. The clothing should be cool in summer and warm in winter. In our country there is a great inclination to *harden* children by dressing them very slightly in cold weather; so that they frequently suffer from catarrh, pneumonia, and spasmodic croup brought on by improper exposure. This cannot but be wrong in a child who shows the least evidence of tendency to tubercular affections. Our authors, from their own experience, are fully convinced that by far the most certain and effectual means of preventing the de-

velopment of a tubercular, or indeed any other cachexia in a child, is to have it brought up in the open country, or in some healthy village, until the epoch of puberty has passed by safely. A very good plan for parents whose occupations compel them to live in cities or large towns, is to have their residence a few miles in the country, and to come to town every day. Children brought up in this way have a far better chance of obtaining strong and vigorous constitutions, than those reared entirely in the close and confined dwellings and streets of crowded cities.

When a child who, from the health of its parents, or from its own appearance, may be suspected of having any tubercular or scrofulous taint in its system, becomes subject to frequent attacks of apparently causeless headache, and especially when such headaches are associated with a constipated habit of body and with occasional vomiting, it ought to be looked upon as threatened with tubercular disease of the brain. Under these circumstances, in addition to the precautions already recommended, our authors advise that the child be at once put upon the use of cod-liver oil, iodide of iron and mild laxatives, and that these be persevered in for several weeks or months, until, in fact, the strength and general health are restored and the headaches cease. When the appetite is poor, and the digestion is imperfect, in such a case, we may use with advantage, besides the above remedies, solution of pepsin, a teaspoonful three times a day with the meals, or tincture of nux vomica, three or four drops in a mixture of syrup and compound tincture of gentian, or in a teaspoonful of elixir of cinchona three times a day. If the child is of an age to be going on with its education, this should for the time cease, or be carried on in such a way as to avoid all excitement and fatigue. If in any child whose hereditary tendencies or whose physical characteristics are such as to make us fear a predisposition to tuberculosis, there should also be evidences of marked nervous irritability or precocious mental development, it is desirable to use every means to prevent a continuance of such undue cerebral activity, which might tend to induce tuberculosis of that organ or its membranes. We must, however, for the most part, be satisfied with a careful atttention to all the details of hygiene, in addition to which, however, the following points deserve mention, viz., to keep the head cool, by not allowing it to be too warmly covered, and by keeping the hair short; to keep the extremities warm; and to avoid stimulating the intellectual faculties to

any considerable extent by education, until after eight or ten years of age. If, finally, in such children, there should be extensive eruptions on the scalp, it may be safe to undertake their cure by suitable internal remedies and mild external applications, rather than to try by powerful local treatment to rapidly remove the affection of the skin.

NOMA PUDENDI.

DR. PUREFOY, OF IRELAND.

This author considers that noma pudendi is identical with cancrum oris, the only difference being in its situation. In the early stages he applies warm bread poultices, and subsequently carbolic oil (1 in 40) dressings, aided by constitutional treatment.

ŒSOPHAGUS: FOREIGN BODIES IN.

DR. LANNELONGUE, OF FRANCE.

On account of the practice, so common among children, of putting different articles into the mouth, it not infrequently happens, that by accident they slip or are drawn into the œsophagus. Our author, in a communication to the *Societé de Chirurgie of Paris*, 1880, tells us that he has extracted foreign bodies from the œsophagus eighteen times, in children from eighteen months to six and a half years of age. In thirteen instances these were pieces of money, and in most of the others the articles came from toy houses. Children to whom this accident occurs do not usually own it, for fear of being scolded, and it is only when unpleasant symptoms occur that they complain. These symptoms generally consist in difficulty of swallowing, pain, with disturbances of respiration and phonation, often of reflex origin. Some time usually elapses before the child is brought to the surgeon, who has first to assure himself whether a foreign body is really present. He explores the pharynx first by his finger, then with an olivary sound, the action of this latter against the foreign body being often unperceived in consequence of the latter becoming surrounded by mucus and

fragments of food. For this reason Graefe's basket is often more useful, as it may succeed in catching the body, although no friction with this has been felt. All the pieces of money in the thirteen cases were fished up by its aid. In one of the cases a miniature flask of curaçoa could be felt by the sound, but was not extracted for fear of breaking, and at the end of three days it was passed per anum.

OPHTHALMIA NEONATORUM.

DR. COLSMAN, OF BARMEN.

This author (*Lancet*, 1882,) says that this disease is very prevalent among the offspring of the lower classes of the population, on account of the eyes receiving, at birth, the contact of contagious substance, the sources of which are abundant among this class. With the view of preventing the outbreak of the disorder, he recommends dropping into the eyes, immediately after birth, a two per cent. solution of carbolic acid or nitrate of silver, with fomentations of a solution of salicylic acid during the first twenty-four hours.

M. GALEZOWSKI, OF PARIS.

M. GALEZOWSKI'S treatment consists in simply touching the conjunctiva with the following solution, using a camel's-hair brush for the purpose:

269. ℞. Argenti nitrat., gr. x
Aquæ destil., ℥j. M.

After touching with this solution, another pencil dipped in a solution of common salt should be passed over the parts, to neutralize the excess of the silver salt. Such is the method exclusively employed by M. GALEZOWSKI in his ophthalmological clinic at Paris; he uses no other means against excessive suppuration, intense chemosis or ulceration of the cornea, if they occur. And yet, out of 4,000 cases treated in his service, not one eye was lost. Treated in this manner, the malady requires from five to six weeks for complete cure.

DR. BULL, OF NEW YORK.

The prophylactic measures recommended by this author (*N. Y.*

Medical Journal, 1881,) are as follows: In all cases of vaginal discharge in parturient women, whether specific or not, the vagina should be carefully cleansed and disinfected repeatedly before parturition begins. As soon as the child is born the external surface and edges of the eyelids should be carefully cleansed with a one or two per cent. solution of carbolic acid, and then the conjunctival cul-de-sac washed out with some of the same solution, or with a saturated solution of boracic acid. This must be done by the attending physician, or by a skilled nurse under his supervision. The eyes of all newborn children should be carefully watched for the first week or ten days, and whenever any signs of an ordinary catarrhal conjunctivitis appear, the conjunctiva should be thoroughly brushed over with a solution of nitrate of silver, from two to five grains to the ounce of water. If the conjunctivitis has become purulent, and the case is one of real ophthalmia neonatorum, the child should, if possible, be isolated from all healthy infants, and have its own bath-tub. If this is not possible the diseased infant should be bathed *last*, and no sponges should be used, but only cloths, which can afterward be destroyed. If one eye only is affected, do not apply the hermetically-sealed bandage to the sound eye, but envelop the arms or hands of the baby, so as to prevent the secretion from being carried to the fellow eye, and lay the child upon the side corresponding to the diseased eye.

The most important feature in the treatment is enforced cleanliness. This requires constant attention, and the frequent use of some soft cloths and plenty of water. The use of cold cloths, dipped in cold water or even iced water, and laid on the eyelids, must be regulated by the amount of swelling of the lids and heat of the parts. As soon as the lids can be everted, the proper treatment is a thorough application of nitrate of silver to the conjunctiva of the lid and retrotarsal fold, daily, and sometimes twice a day. If this is thoroughly done, a five-grain solution will in most cases suffice; but where there are profuse secretion and considerable swelling of the conjunctiva, a ten-grain solution becomes necessary. When, owing to marked hypertrophy of the papillary structure of the conjunctiva, a stronger caustic becomes necessary, it is better to discard solutions, and employ the lapis mitigatus (one part nitrate of silver to two parts of nitrate potassium), and neutralize its effect by a subsequent washing with a solution of common salt. It is well to employ a one-grain solution of sulphate of atropia in a satu-

rated solution of boracic acid in every case of purulent ophthalmia, as the great danger in this disease is purulent infiltration and perforation of the cornea. Should this infiltration occur at the centre of the cornea, the atropia should be instilled frequently ; for, if perforation occurs, the dilatation of the pupil will prevent a large prolapse of the iris through the perforation. If the infiltration of the cornea, on the contrary, be at or near the margin, it is better to employ a two-grain solution of the sulphate of eserine, as thus an extensive prolapse of the iris may be prevented if the ulcer perforate. In all cases the cleansing and washing of the lids and conjunctiva should be done with a saturated solution of boracic acid, and the atropine and eserine should be dissolved in the same.

PAROTITIS, OR MUMPS.

EDWARD ELLIS, M. D., LONDON.

The swelling of the parotid gland should be fomented several times a day, with a flannel wrung out in a hot lotion containing an opiate, and a linseed-meel poultice applied occasionally. The bowels must be kept open by laxatives.

Should there be metastasis to the brain, a few leeches may be applied to the temples, the feet should be immersed in hot mustard-water, and a brisk aperient given every three or four hours. Metastasis to the testicles or mammæ requires fomentations and the same general treatment in the way of purgatives and derivatives.

When the parotitis occurs in the course of measles or scarlatina, it is usually significant of an adynamic condition, and requires supporting and stimulant medication.

DRS. MEIGS AND PEPPER, OF PHILADELPHIA.

As mumps almost invariably runs a favorable course, the treatment should be of a mild and expectant character. The child should be strictly confined to bed ; the diet should be fluid, partly on account of the great difficulty in mastication, light and digestible, consisting chiefly of preparations of milk and light animal broths. The only internal remedies required are febrifuges, such as spirits of nitrous ether, and solution of acetate of ammonia, with a free supply of water and acidu-

lated drinks; occasional laxatives; and, if there is sleeplessness, small doses of Dover's powder or some other anodyne. Local applications appear to have little or no influence upon the course of the swelling. The only ones to be recommended are warm, light poultices, or light water dressings, covered with oiled silk, which do not annoy the child and tend to favor resolution. If the induration be marked and extensive, so as to threaten suppuration, it has been advised to apply a few leeches behind the angle of the jaw. If it should become evident that suppuration has occurred, the abscess should be opened immediately, and the discharge favored by the application of poultices, in order to prevent further destruction of the gland or perforation of the external auditory meatus. In cases where induration and enlargement of the gland persist, absorbent applications, such as inunctions of iodine or mercury, should be made over the tumor. In cases where alarming symptoms of depression and cerebral disturbance make their appearance after the sudden subsidence of the parotid swelling, the effort may be made to redevelop the external inflammation by stimulating applications to the surface, and by the internal administration of nervous and diffusible stimulants, such as ammonia, musk or brandy.

After the acute symptoms of the attack have subsided, and the child has fully entered upon convalescence, we would caution against allowing it to leave bed too soon, since we have occasionally observed such premature exposure to be followed by marked febrile sequelæ. Thus, in one case, occurring in an adult, there was marked fever lasting for a week; in another case, in a child, there was high fever for ten days; and in a third case, also in a child, there was most obstinate and violent vomiting for four days.

PAVOR NOCTURNUS (NIGHT TERRORS).

DR. EDWARD HENOCH, OF BERLIN.

This author would not hesitate to use morphia or chloral in very severe cases. He differs from WEST, that nocturnal terrors are caused usually by disturbances of digestion. He has rarely, with any certainty, detected dyspeptic symptoms, whose removal relieved the affection. Hence he confines his treatment to the prohibition of any stimu-

lation of the youthful imagination by the recital of tales at night, and to the administration before retiring of a dose of bromide of potassium.

PROFESSOR WILLIAM PEPPER, OF PHILADELPHIA.

When, as sometimes happens, we find in these cases of "Night Terrors," a history of long continued irritation of the stomach and bowels, an exaggerated sensibility of the nervous system, and a defective state of nutrition, this author would give (*Medical and Surgical Reporter*, 1882,) a teaspoonful of an emulsion of cod liver oil with the hypophosphites, after meals. He would then use one or two sorts of remedies: either remedies directed to the nervous system—and of these he would select one or two, either the bromides, by the mouth, or quinine and assafœtida, by the rectum: he would use a suppository, containing:

270. ℞. Quiniæ sulphatis,
Assafœtida. āā gr. jss;

Or, if this irritates the bowels, it would have to be omitted, and he would give:

271. ℞. Potassii bromidi,
Sodii bromidi, āā gr. jss,

In a little calisaya elixir three times a day, between meals—or, in the second place, if he found, under close observation, that digestion was not right, that the stools were broken, irregular in color, and imperfectly digested, and that there was a good deal of flatulent distention of the bowel, he should not give the remedies above mentioned, unless, perhaps, a little quinine and assafœtida at night, but he would give remedies directed to the mucous membrane of the stomach and bowels. These would be either pepsin and bismuth, or oxide of silver. This is the class of cases, either of spasmodic nervous trouble or of epilepsy associated with gastro-intestinal irritability, where the salts of silver have earned their reputation; nitrate of silver is considered by the laity as one of the most reliable remedies in the treatment of epilepsy. Nearly all the cases, if not all, that have been cured by this drug, have been cases in which the attacks have been reflex from irritation of the gastro-intestinal mucous membrane. If, on careful examination, there are evidences of a long-continued subacute irritation of the stomach and bowels, he should give from one-twelfth to one-eighth of a grain of oxide

of silver in a small pill, or else one twenty-fourth grain of nitrate of silver in solution. With this he should give the cod-liver oil, regulate the diet, keep him where he would not be frightened by the cars, and be very careful that he did not get over-fatigued or excited.

DR. WILLIAM B. ATKINSON, OF PHILADELPHIA.

This author says that the treatment must be directed to the avoidance of the causes, (*Alienist and Neurologist*, 1884,) as fright, silly-shines, sleeping without a light, injudicious feeding, the relief of constipation, the use of abundance of fresh air and exercise ; the latter, even to the point of approaching fatigue, so that the child may sleep soundly, without dreaming ; and the employment of nervines and tonics, preferably those containing phosphorus and iron.

DR. MOIZARD, OF FRANCE.

According to this author (*Revue des Malades de l'Enfance*, 1884), the preponderating influence of digestive troubles indicate the necessity of a rigid diet. Intellectual hygiene is of no less importance, and any excess of mental work should be strictly avoided. As children of delicate complexion are often involved, regular exercise and a regime, both restorative, and tonic are necessary. As to the paroxysm itself, bromide of potassium and chloral appear to be the best remedies indicated. It should be remembered that these attacks almost invariably supervene in the first part of the night, and they should, therefore, be guarded against and prevented by securing a sound and quiet sleep during the first three or four hours of the night.

DR. HARKIN, OF IRELAND.

This teacher tells us in the *Dublin Medical Journal*, 1880, that young children from the first to the sixth year, particularly those sleeping in over-crowded rooms, are subject to frequent attacks of screaming at night, with insensibility and semi-convulsions, and somnambulism, if not watched, and something approaching to the *petit mal*, due to the protracted inhalation of air deficient in oxygen, and laden with carbonic acid and other morbid products, a persistence in this habit often leading to tubercle of the brain or lungs. For this condition he has always found the *chlorate of potassium* a sovereign remedy.

PEMPHIGUS NEONATORUM.

DR. EDWARD HENOCH, OF BERLIN.

General tonic treatment is indicated, especially breast milk, wine and good air. Baths of corrosive sublimate (15 grs. to the bath) should be used when there are positive evidences of syphilis.

PERITONITIS.

DR. OSCAR SILBERMANN, OF GERMANY.

In *Jhrbch. f. Kindhlkde*, 1882, this author says that peritonitis in infancy is not marked by the clear and characteristic symptoms which it presents in adult life. Of 186 cases in the first year of life, 102 were in the first two weeks, and 62 in the next two. There are two varieties: 1. A non-septic (chronic) form, and 2. A septic (acute) form.

The non-septic form develops usually early in fœtal life, and its most important cause is undoubtedly syphilis. The children are either born dead and often partially macerated, or they die shortly after birth with symptoms of marasmus. In the latter case the striking appearances are the aged face and drawn and decrepit appearance, the distended abdomen, more or less ascites, spleen and liver enlarged, respiration rapid and pulse small, extremities cool, cyanosis. It is, however, not always limited to these symptoms, but often by involving the intestines and their coverings leads to atresia ani, and sometimes stenosis or complete atresia of the small intestines. The author reports an interesting case of this latter kind.

In considering the septic or acute form, the author makes a further subdivision into two classes, both of which usually depend on infection through the navel. The first is general septicæmia, of which the peritonitis is only one symptom. The other is peritonitis appearing as the single and only effect of septic infection, and characterized by clear features. In the midst of apparent health, the children become restless, cry, refuse the breast, begin to fall away, and the pulse and respiration rapidly increase. The prodromal appearances may, however, be wanting, and then we have at once vomiting, sharp diarrhœa, mete-

orismus, tenderness of the abdomen, frequent respiration, very rapid pulse and intense icterus. After a few days, or even hours, the extremities become cold, the pulse small and imperceptible, and the child dies in collapse. In some cases the symptoms are less stormy, and pass over in a few days (Quinquaud's "abortive form"). With such clear symptoms, with septic disease of the mother or septic appearance of the navel, it would seem that there could scarcely be any difficulty of diagnosis; the author, however, takes up the separate symptoms, and shows that hardly one of them is constant. The vomiting may be absent, there may be constipation instead of diarrhœa, meteorismus occasionally is wanting; exudation is always present, but is sometimes so slight that especially if there is meteorismus, it cannot be detected; tenderness of the abdomen occurs in other diseases also, pulse, temperature, and respiration may offer the same variations from other causes, etc., etc. The rapid loss of weight is one of the most unfailing symptoms. The only other disease which causes this so rapidly is a severe dyspepsia, with which in fact a peritonitis is most likely to be confounded, especially if it occur late, after the umbilical wound is closed.

The treatment of septic peritonitis is first of all prophylactic. The umbilical wound must be kept perfectly clean, and the child removed from the mother if she shows any signs of septic trouble. For the high fever, quinine and Priessnitz' compresses—never salicylic acid, which may cause severe collapse. For the vomiting, chloral hydrate.

272. ℞. Chloral hydrat, gr. xv–xxx
Aquæ, f. ℥ iij. M.
S.—Teaspoonful hourly.

To keep up the strength, stimulants are necessary, and the author especially recommends green tea and rum-water, which is often well borne when every other drink, and especially wine, is constantly vomited. Opium and cold are contraindicated, as causing collapse. The prognosis is bad, but this must not deter us from using every means at hand.

PERTUSSIS.

DR. ARMAND SEMPLE, OF LONDON.

This author very truly says that the treatment of whooping-cough

cannot be considered as satisfactory. After enumerating the various classes of remedies that have been recommended, he says that it may be stated in general terms that in uncomplicated cases of whooping-cough it will be useful to administer in the first place some mild alteratives and antacids, as hydrargyrum cum creta, soda, potash, and rhubarb, together with ipecacuanha in moderate and long continued doses (5–10 minims according to the age). In general the disease lasts, in spite of all remedies, from a month to six weeks; but it may last much longer, in which case, change of air will be found the most efficacious remedy, and not merely from an unhealthy to a healthy locality, but *vice versa*. It has been proposed and successfully carried out, to take sufferers from whooping-cough to the neighborhood of gas works, the effluvia from which appear to exercise a beneficial influence over the disease. When pertussis is complicated, as it often is, with other affections, the appropriate remedies must be employed. Thus in the strumous diathesis, cod-liver oil and iron will be indicated.

DR. EDWARD HENOCH, OF BERLIN,

Tells us that he has come to rely upon one drug alone, viz. morphine, which can at least moderate the violent paroxysms, especially the nocturnal ones, and diminish their frequency, although it does not influence the course of the disease on the whole.

273. ℞. Morphiæ acet. vel. muriat., gr. $\frac{1}{6}$–$\frac{1}{2}$
Aquæ destil., f. ℥j
Syrup, f. ℥iij. M.
S.—Teaspoonful two or three times daily.

We should be careful to warn the mothers, that as soon as unusual drowsiness develops, the remedy should be at once discontinued. When carefully administered he has never seen any bad results follow, even when one or two teaspoonfuls of the mixture were given daily for weeks; he therefore prefers it to all other narcotics, especially to the dangerous atropine. But he would recommend morphine only in severe cases, where at least twenty paroxysms occur in the twenty-four hours. He sometimes uses inhalations of carbolic acid, combined with the morphine. From them he has sometimes had good results, sometimes none at all, but he has never observed any bad effects. He uses either a one or two per cent. solution, by means of a spray apparatus; if this is difficult of performance, the air of the room may be impreg-

nated with its vapor, and a sponge, dipped in the solution, hung at the head of the bed, and a similar one held in front of the child's nose several times a day, so that its vapor can be inhaled for several minutes. In fine weather the fresh air should be enjoyed as much as possible; but in rough, windy weather, or when severe bronchial catarrh is present, this should be strictly prohibited. His experience does not teach him that a change of air has any beneficial influence.

DR. V. H. MOORE, OF ONTARIO.

This author has been using croton-chloral hydrate for some years with great success (*Medical and Surgical Reporter*, 1884). In ninety-five per cent. of the cases in which he used it, the disease was cured in from six to twelve days. During the past five years he has attended two epidemics of pertussis, which gave him ample opportunity of testing the merits of croton-chloral in persons of almost all ages; from infants under eight months, to persons of the age of fifty-five years. He found it act equally well, no matter what the age was. It must be given in full doses, properly dissolved, and every three hours. His method of prescribing it is as follows: For a child from eight to ten years of age:

274. ℞. Croton-chloral hyd., ℈iiss
Aquæ bullientis ad., f. ℥viij. M.
Sig.—℥ss every three hours, night and day.

The above dose, of course, should be increased or lessened, according to the strength and age of the patient. He does not use anything to cover the taste of the remedy, nor does he use anything to render it more soluble, experience having taught him that the best results were obtained when the remedy was given as above described. Croton-chloral has proved as sure a specific in his hands, in whooping-cough, as quinine has in intermittents. Let it be constantly borne in mind, that to get the beneficial effects of this drug, it must be given in full doses, properly dissolved, and every three hours.

DR. MONCORVO, OF RIO DE JANEIRO.

This author tells us, in the *Allg. Med. Centr. Zeitung*, 1884, that he has come to the following conclusions after careful study and much experience:

1. Whooping-cough, the nature of which, until recently, was the sub-

ject of the greatest dispute, seems, to judge from the latest clinical observations and microscopical examinations, to belong to the zymotic diseases.

2. The disease seems to be due to the presence of micrococci, which develop themselves to an alarming degree in the mucous membrane of that part of the larynx situated below the glottis, and infiltrate the epithelial cells.

3. *Resorcin*, applied directly to the mucous membrane of the larynx, has not only diminished in a very short time the number of the attacks of coughing in cases in which it was employed, but it has also decidedly cut short the course of the malady.

The best method of applying resorcin in these cases is its administration by an atomizer. If this cannot be had, it should be blown in the usual manner into the larynx by the aid of a quill. The only trouble is that whooping-cough is apt to attack young children, and that in them all direct applications to the larynx are difficult to execute. The internal administration of resorcin is, however, utterly useless.

DR. ARCHAMBAULT, OF PARIS.

This author recommends (*Gaz. des Hôpitaux*, 1882, and *Progrés Medicale*, 1882,) that children suffering from this disease should be kept in-doors and that special attention should be paid to keeping the temperature of the rooms they occupy uniform. He states that by means of such precautions, it is almost certain that such lung complications as capillary bronchitis and broncho-pneumonia may be prevented. In support of his advice, he points to the fact that summer attacks of the disease are always milder than those in winter. The drug he recommends is sulphate of atropine, 1–1000, one drop thrice daily for children a year old, two drops for two year old children and so on.

DR. W. C. WEBB.

This author has also had excellent results from the use of croton-chloral (see Dr. V. H. MOORE, above) which he publishes in the *American Practitioner*, 1883. The lesson taught him by his experience is to the effect that croton-chloral is, with very rare exceptions, singularly well borne by children. Next, that to get the full value of the drug it must be given in decided doses—doses large enough to produce quick and marked effect. A child twelve months old will bear a grain of the medicine every four hours, day and night, or six grains in the

twenty-four hours; and to get its curative effects, not less than this should be given. This during the first week. After that time the cough is usually so much relieved, that the number of doses may be lessened, the drug being given say during the day only. Used in this way, that is, pushed to its full effect, he has very seldom seen a case in which the cough was not under entire control within a fortnight. And he includes in this statement several excessively severe cases, complicated by convulsions and marked catarrhal difficulty.

Children from ten to twelve years old will require two grains of croton-chloral at a dose, while an adult will not often bear more than four grains repeated, as in the young child, every four hours.

The drug does not disorder the digestive organs, and by lessening the frequency and severity of the paroxysms, puts an end to troublesome hemorrhage and vomiting. Occasionally, the first few doses produce some irritation about the throat and fauces, but this soon passes off. The toxic effects of the medicine do not seem to affect the organic centres. He has more than once seen patients fall asleep under its influence while in their chairs, the respiration and movements of the heart remaining unchanged.

Croton-chloral is readily dissolved in comp. tr. cardamoms, if first the drug be thoroughly pulverized. An eligible mixture is formed by dissolving one drachm in two ounces each of tr. card. and glycerine.

He has met with several cases in which the paroxysms of cough were so severe and accompanied by such extreme gastric irritability that it was necessary to give the patient a few whiffs of chloroform before attempting to administer the croton-chloral. He has seldom found it necessary to repeat the chloroform more than two or three times. In such cases as have used the anæsthetic, the very happiest effects have followed.

Of the mixture mentioned, one drachm of croton-chloral and two ounces each of tr. card. and glycerine, the dose is a half-teaspoonful every four hours for a child two years old and under.

Croton-chloral is so expensive a medicine that he has, owing to the known efficacy of belladonna in whooping-cough, sometimes used the following recipe, and with very good results:

275. ℞. Croton-chloral, ʒj
Tr. cardam., ℥ij
Tr. belladon., ʒij
Glycerin., ℥iij. M.

Dose, same as of other.

He sometimes combines the several bromides with the croton-chloral, but never felt sure that they added in any degree to its efficacy. If one bromide was better than another, it was the bromide of quinia. But he relies now exclusively on the croton-chloral in the management of pertussis. While he has never seen any unpleasant effects from this drug, he adds that in its exhibition a watchful care should be exercised lest, for some reason, its toxic effects should manifest themselves.

M. PIERRE VIGIER, OF FRANCE.

M. PIERRE VIGIER, in a French journal, gives a few prescriptions. First, he recommends *drosera* to be given in the form of alcoholate for a child one to two years of age, twenty drops three or four times a day in a little sweetened water; for older children, from one to four teaspoonfuls in the course of the day. The favorite remedy of Dr. DELPECH is one frequently employed in France, namely, thirty grains of powdered *cochineal* and twenty grains of *subcarbonate of potash* in half a pint of water, flavored and sweetened. M. VIGIER gives as a modication of this formula a recipe for a preparation which will keep, as follows:

276.	℞.	Powdered cochineal,	℥iij ¾
		Subcarbonate of potash,	℥iij
		Boiling water,	Oj
		Sugar,	℥ xxviij.

Infuse the substances for half an hour, add the sugar, dissolve with a gentle heat, and strain. Children of one or two years may take two to three teaspoonfuls per day; older children, from three to six teaspoonfuls; and adults, two tablespoonfuls per day.

Dr. BEAUCHENE prescribes the following powder:

277.	℞.	Calcined magnesia,	℥ ij
		Sugar,	℥ ss
		Extract belladonna,	gr. iij
		Kermes,	gr. iss
		Orris,	gr. ix.

Mix the extract and the sugar, add the kermes and the orris, then the magnesia, and triturate to homogeneity. Divide into fifty powders. Children of one year may take three per day between meals; children from two to three years of age, five; and older persons, eight.

M. DUJARDIN BEAUMETZ, OF PARIS.

This author, in his recently published (1882) *Leçons de Clinique Therapeutique*, recommends the bromides with chloral in the treatment of whooping-cough. He gives, morning and evening, in a glass of milk containing a yolk of one egg, a dessert or tablespoonful (according to the age of the child,) of the following mixture:

278. ℞. Potass. bromid., ℥ss
Sodii bromid., ℥j
Ammonii bromid., ℥ss
Syr. chloral., (Fr. cod.), ℥iss
Aquæ, f. ℥ij. M.

DR. LUTON.

According to the *Medical Press*, 1882, this author recommends the administration of sulphur, especially in the convulsive stage. Flowers of sulphur 8 to 15 grains, sugar of milk 16 grains. In ten powders, one every two hours, while carbonate of iron should be given to keep up the strength, ten grains in the day. Coffee renders good service, and an emetic should be given every two days.

MR. A. MCDONALD, OF SCOTLAND.

This author (*Edinburgh Medical Journal*, 1881,) says that after an extended trial, he finds carbolic acid, in doses of one-fourth minim to a child of six months, one-half minim for a year, and one minim for two years and upwards, to be the best remedy for whooping-cough. The whoop goes; the vomiting ceases, and the paroxysms are modified in intensity and frequency. Dr. J. BAUGH, of Canada, (*Canada Lancet*, 1881,) adds his testimony to the efficacy of carbolic acid. For a child three years old he gives the following:

279. ℞. Acidi carbolici, gr. iv
Glycerini, f. ℥iss
Syr. simp., f. ℥iv
Aquæ, ad f. ℥iv. M.
S.—A teaspoonful every hour.

DR. J. H. EAGAN, OF TENNESSEE.

The petroleum derivative *cresolene* is recommended by Dr. J. H. EAGAN. The cresolene is vaporized, not atomized. The vaporizer consists of a metal cup, two inches in diameter and one inch deep, and a diaphragm, supported by standards, six inches in height. An ordi-

nary toy kerosene lamp will furnish the heat necessary for twelve hours. Atomizing and spraying impregnate the atmosphere for a limited time, as the particles, weighted with water, instantly gravitate to the ground. With a vaporizer, the vapor is diffused to every part of the room. Should the smell of the cresolene be offensive, a few drops of perfume will remedy the evil. It is best to use the apparatus at night, closing the windows and doors, so that the vapor may be confined (*Medical and Surgical Reporter*, 1880).

DR. HENRY KENNEDY, OF IRELAND.

According to this author (*Dublin Journal of The Medical Sciences, 1881*), it is erroneous to claim that whooping-cough cannot be cured, and must be allowed to run its course. It is, he thinks, always a good rule, whether the child be feverish or not, to put it on a milk diet, at least for a time; he has often seen relapses occur from the child getting solid meat when not in a fit state for it. He gives medicines only during the evening and night; it is a good plan to give a dose after each paroxysm. The inhalation of *chloroform*, one or two whiffs direct from the bottle will greatly mitigate the severity of the paroxysm. He highly esteems the use of *bicarbonate of potassium*, especially where there is fever; some anodyne may be added to it, especially belladonna. Hemlock, he highly recommends, in doses of from two to four grains of the extract, to a child one year old, particularly after the fever has gone. Chloral, he considers the remedy that yields the best and most constant results; it comes as near a specific as any drug that he knows of. When the bronchial secretion is profuse, he recommends emetics, given in the evening. When the disease has become chronic, he resorts to rubefacients, which are useful in proportion to the redness they create. He thinks he has seen the best results when they are rubbed over the stomach.

DR. E. J. BEAL.

In the *St. Louis Clinical Record*, 1880, this physician claims gratifying results from the following: Three or four thicknesses of white flannel, four by four inches are quilted together and suspended by tape around the neck of the little sufferer, like a necklace. The pad so formed is to be saturated three or four times daily with the following mixture, and to be worn night and day. When the child sleeps, the pad must be placed in close proximity to the respiratory outlets.

280. ℞.	Ol. sassafras,	f. ʒ iij	
	Ol. terebinth.,	f. ʒ iv	
	Ext. belladonnæ fl.,	ʒ ss	
	Phenol. sodique,	ʒ iv.	M.

DR. DOLAN, OF ENGLAND.

This author reviews all the remedies usually recommended for whooping-cough, in the *Midland Medical Miscellany*, 1884. Belladonna for general results, and salicylic acid, in the form of spray (⅓ to ½ per cent.), for immediate relief, are credited with the best average of efficacy. Dr. DOLAN deduces, with some force, from this conclusion (the salicylic acid having, in his belief, merely a germicidal action) a support to the theory advanced in his previous essay of the fungoid origin of pertussis. The special form of microbe, rejoicing in the name of the bacillus pertussis, and believed to be pathognomonic of the disease, has been described and shown by Professor BERGER. Dr. DOLAN observes, however, that we must "recognize, as in phthisis, that the finding of the bacillus is only the first link; experiments must determine the connection between the organism and the disease." So obviously and readily contagious is pertussis, that such experiments, when performed, ought soon to furnish a definite conclusion.

PROF. JOHANN STEINER, M. D., PRAGUE.

This judicious author remarks that we have no specific remedy for whooping-cough, and of all those which have been recommended, *belladonna*, in doses of the extract of ⅙ or ½ a grain three or four times a day, either alone or in combination with quinine or the oxide of zinc, seems of greatest service. The dose of belladonna is to be gradually increased until symptoms of intoxication appear. When there is abundant mucous secretion and no vomiting, an occasional emetic is useful.

Prof. BARTHOLOW and others consider the best form for administering belladonna is a solution of the sulphate of atropia:

281. ℞.	Atropiæ sulphatis,	gr. j	
	Aquæ destillatæ,	f. ʒj.	M.

Two to four drops at a dose.

He believes it most effective in the spasmodic stage, when there is profuse bronchial secretion.

MR. JOHN REYNOLDS, LONDON.

282.	℞.	Quiniæ sulphatis,	gr. xvj	
		Acidi sulphurici diluti,	q. s.	
		Tincturæ aurantii,	f. ℥j	
		Aquam,	ad f. ℥ij.	M.

Two teaspoonfuls every three hours.

Mr. REYNOLDS claims for quinine a *specific abortive* power over whooping-cough. With the above formula he cures his cases in two days. Other physicians report favorably of the method. To do good it must be pushed to a quantity equal to a full antiperiodic dose. To a child under three years, ten grains should be given in twenty-four hours; to a child twelve years old, from sixteen to twenty grains should be given in the same time.

Dr. F. FORCHEIMER, of Cincinnati, prefers to give quinine by insufflation. For this purpose a laryngeal insufflator is used—it matters not what kind; this is introduced, and three or four of the powders, the formula for which follows, are blown daily into the larynx, but especially upon the epiglottis and surrounding mucous membrane.

283.	℞.	Quiniæ sulphatis,		℈j	
		Sodii bicarbonat.,			
		Pulv. acaciæ,	āā	gr. xx.	M.

For ten powders.

When this method is used as described, according to his experience, no cases withstand it.

DRS. MEIGS AND PEPPER, OF PHILADELPHIA.

284.	℞.	Aluminis,		℈ijss	
		Syrupi zingiberis,			
		Syrupi acaciæ,			
		Aquæ,	āā	f. ℥j.	M.

A tablespoonful thrice daily, every five or six hours.

This recipe, when prepared with good syrups, tastes very much like lemonade, rendering it acceptable to children.

Our authors more generally employ alum in combination with belladonna. They have obtained better results from the following formula than any other ever employed:

285.	℞.	Extracti belladonnæ,		gr. j	
		Aluminis,		℥ ss	
		Syrupi zingiberis,			
		Syrupi acaciæ,			
		Aquæ,	āā	f. ℥j.	M.

A teaspoonful morning, noon and night; also once in the night, if the cough be troublesome.

286. ℞.	Potassii carbonatis,	℈j	
	Cocci.,	℈ss	
	Sacchari albi,	ʒj	
	Aquæ,	f. ʒiv.	M.

Dessertspoonful thrice daily, to a child a year old.

This mixture has long enjoyed a high reputation in this country and abroad. Our authors, believing its efficacy to be due to the carbonate of potash, ordinarily omit the cochineal. This recipe, together with the alum and belladonna mixture given above, present the most useful agents we have to keep down the violence of the disease.

DR. GOLDING BIRD, LONDON.

287. ℞.	Aluminis,	gr. xxv	
	Extracti conii,	gr. xij	
	Syrupi rhœados,	f. ʒij	
	Aquæ anethi,	f. ʒiij.	M.

A medium-seized spoonful every three hours in the second or nervous period of the disease, after the subsidence of inflammatory symptoms, and when the patient is harassed and exhausted by the attempts to get rid of the copious bronchial secretion.

Under these circumstances, this author considers *alum*, which he administers according to the above formula, the most satisfactory of all remedies, affording the speediest and most marked relief.

PROF. FELIX VON NIEMEYER, M. D., TUBINGEN.

This author attaches considerable value to a well-managed treatment by *sweating*, especially at the commencement of the disease. When there is mucus in the throat, and a paroxysm of coughing is threatened, he gives:

288. ℞.	Coccinellæ,	gr. xij	
	Potassii carbonatis,	℈j	
	Syrupi simplicis,	f. ʒj	
	Aquæ,	f. ʒiij.	M.

A teaspoonful at a dose.

Dr. Niemeyer cannot admit that any narcotic whatever (belladonna included) has any specific action against this disease. Should the treatment given above prove ineffective, should the child empty its stomach with every paroxysm, should his nutritive condition begin to suffer from constant vomiting and sleepless nights, should convulsions or signs of actual suffocation occur during the seizures, the administration of nar-

cotics is indicated. *Belladonna* enjoys this advantage over opium that, in the condition of the pupil, we have an index for regulation of the dose. To children between the ages of two and four years, we may give the $\frac{1}{8}$ of a grain of the drug, night and morning, gradually increasing the dose up to $\frac{1}{2}$ a grain, or until the pupil begins to dilate. For older children small doses of *morphia* (gr. $\frac{1}{12}$–$\frac{1}{8}$, *in die*). If, immediately after the cough, there still remain audible râles in the chest, if the child grow short of breath, or the respiration become enfeebled throughout a part of the thorax, an *emetic* should be given forthwith, and repeated whenever the symptoms recur. In the third stage, when impoverishment of the blood and general exhaustion furnish the most urgent symptoms, the free administration of meat diets, eggs, wine, and the ferruginous preparations, is indicated.

NOTES ON REMEDIES.

**Acidum Carbolicum* is highly recommended (see p. 256).

Acidum Hydrocyanicum, useful after the catarrhal symptoms have diminished. Dr. West was accustomed to prescribe ā dose of $\frac{1}{2}$ a minim of dilute hydrocyanic acid every six hours for a child nine months old, gradually increasing the dose to 1 minim every four hours for a child of that age, and so in proportion for older children. It is also recommended for the cough kept up by habit after the subsidence of the disease, and the cough by imitation.

Acidum Nitricum sometimes benefits exceedingly, but it is uncertain. It should be given well diluted in sweetened water.

Alumen. Dr. Ringer is of opinion that in complicated cases few remedies give better results than alum; he gives gr. ij–vj every three hours.

Ammonii Picras. Dr. Z. T. Dellenbaugh (*Medical Times*, September, 1878,) reports a number of cures with this agent in from twenty-four to seventy-two hours, and claims it as a specific. The dose to babies is gr. $\frac{1}{12}$; to children, gr. $\frac{1}{8}$, every three hours.

289. ℞. Ammon. picratis, gr. ij–iij
Ammon. muriat.,
Ex. glycyrrhyz., āā ʒj
Aquæ ad., fl. ʒiij.
S.—Fl. ʒj. every three hours.

Amyl Nitrite. This is one of the late cures for whooping-cough. Dr. Sawarosky directs the patient to breathe several times a day a mixture of a few drops of nitrite of amyl in a drachm of chloroform; at the same time administers, internally, for three days, every two hours, $\frac{1}{12}$ of a grain of silver cyanate and three grains of pure clay. Hot food and drinks must be avoided. A cure is effected in a few days. Dr. George Bayles has also reported on its use very favorably. (*Va. Medical Monthly*, August, 1877).

Argenti Iodidum, gr. $\frac{1}{8}$, to a child three years old, is recommended by Dr. Bartlett as a most effective and pleasant remedy.

Argenti Nitras. Drs. McNutt and Maxwell (*Boston Medical and Surgical Journal*, August 16th, 1871,) use a solution of nitrate of silver, gr. xv to the ounce, applied by the spray atomizer, which seldom fails to effect a cure.

Argenti Oxidum. Dr. W. Macfarlane (*Australian Medical Gazette*, December 15th, 1869,) has every reason to believe that oxide of silver shortens the pertussis; dose, $\frac{1}{6}$ of a grain, three or four times daily, in any simple powder, up to one year of age.

Assafœtida is a disagreeable but useful remedy, and may be given freely to infants and young children.

Belladonna. Prof. J. Lewis Smith, of New York, commonly employs the *extract of belladonna* in 1-grain pills. For an infant one year old, one pill is dissolved in eight teaspoonfuls of water; three years, in four teaspoonfuls. A teaspoonful to be given one, or, if there be no appreciable effect, three or four times daily. If there be no modification of symptoms, an additional half spoonful should be given on the third day. If *atropia* is used, gr. $\frac{1}{120}$, twice daily, is sufficient.

Benzine, in doses of gtt. xx–xxx in sweetened mucilage, is praised by Drs. Bottare and Lochner. It has also been inhaled.

Bryonia. In a communication to the *Journal de Therapeutique*, May 25th, 1878, Dr. Louvet-Lamar stated that he had derived great advantage from treating the catarrhal stage of pertussis by the tincture of *bryony*, and the paroxysmal stage by the tincture of *drosera*. Of the former, he gives one gramme per diem to a child seven years old, and although it may not abridge this first stage of the disease, it diminishes the tracheo-bronchitis very sensibly, and therefore the violence of the cough. When the bronchial tubes are overloaded with mucosities, he also administers an emetic. As soon as the paroxysmal character becomes well established, he gives the tincture of drosera, (one gramme daily for a child seven years old,) and as long as there are any râles heard in the chest he associates the bryony with it. It soon lessens the violence of the paroxysms, but may have to be continued two or three weeks before convalescence is established. These agents were introduced by American "eclectic" physicians.

Calx. The carbolate of lime is recommended by Dr. Ed. M. Snow. The gas from the lime used in gas-works has been shown by Dr. W. S. King to be a remarkable alleviant in whooping-cough. (*Med. and Surg. Reporter*, May, 1867).

Camphoræ Monobromas is a useful sedative.

Castanea, chestnut leaves, recommended by Dr. Ludlow, of Cincinnati:

290. ℞. Castaneæ vescæ, ℥ss
Aquæ bullientis, ℥j. M.

Add to this a pint of cold water; sweeten with white sugar, to make

it palatable, and administer cold. As much should be given during the day and evening as the patient can be induced to take.

Dr. J. Coopreider, of Taylorsville, Ind., writes to the *Canada Med. Record*, (1883,) that he has used the *fluid extract of chestnut leaves* for whooping cough, with great success.

The dose employed is from fifteen to sixty drops, according to age. If the child is large enough, he gives it in hot water as an infusion, sweetened ; to a small child, in simple syrup or elixir.

It not only relieves or lightens the paroxysms, but will actually cure in from four to five days.

He gives four to six doses per day, according to the severity of the case.

If good fresh leaves can be procured, he makes the infusion as a tea, say two drachms of the leaves to half a pint of boiling water, and gives two ounces at a dose, sweetened with white sugar.

Cerii Oxalas. This salt is given in doses of gr. ss–ij, before breakfast, on ʒ daily. Dr. T. Clark has recommended it in the *Practitioner*, 1879 ; and a New York physician, Dr. Morje, has reported favorably from its use.

Chloral, in small doses, allays the cough. Dr. P. B. Porter, of New York, after extensive trials, says he has found it, on the whole, the most reliable and satisfactory agent that he has employed. It has the great advantage over quinine in solution (which he has also used with success), of not being unpleasant to the taste when given in syrup.

Croton Chloral has been highly praised by recent writers. A child a year old can take 1 grain every four hours. It should be specially impressed on parents and nurses, that to do good it should at first be given every four hours, *night and day*, even should the patient require waking up. At the end of week, it need only be every four hours during the day, and at night when the patient is awake.

The worst cases usually completely yield in a fortnight. The drug does not upset the digestive organs, and, by lessening the frequency and duration of the paroxysms, puts an end to troublesome epistaxis and vomiting. Sometimes the first few doses produce a feeling of irritation about the throat and fauces, but this soon passes off. It may be given, gr. j–ij dissolved in compound tincture of cardamom, and sweetened with glycerine. (See Drs. Webb and Moore, page 253.) Dr. Farquhar, of Zanesville, Ohio, confirms all that Dr. Webb says about croton chloral and speaks highly of the following :

291. ℞.	Croton chloral,	gr. xv	
	Ether sulph.,	gtts. xx	
	Potass. bromid.,	ʒj	
	Tr. belladonnæ,	gtts. xv	
	Tr. hyoscyami,	gtt. xxiv	
	Syr. tolu.,	ad f. ʒ iv.	M.

S.—One teaspoonful every four hours until better, then only three times a day.

Drosera. See *Bryonia.*

Ferri Carbonas administered in cakes (one grain for each year up to six years old, every three or four hours), is highly praised by Dr. W. H. O. SANKEY, in the *Birmingham Medical Review*, 1884.

Hydrargyri Sulphuretum Nigrum, in doses of gr. vij daily, is strongly recommended by Dr. CHIRICOZZI. (DOBELL'S *Reports*, 1877.)

Hydrobromate of Cicutin. This salt of the alkaloid of hemlock has been employed in whooping-cough, asthma, and pthisical cough, by M. LANDUR, with satisfactory results; $\frac{1}{20}$ to $\frac{1}{10}$ may be given an adult every hour or two. (*Bull. Gen. de Therapeutique*, May, 1876.) In pertussis, it is given in doses of $\frac{1}{12}$ of a grain, if necessary, every hour, for a child three years of age, or $\frac{1}{18}$ of a grain for a child of one year, and $\frac{1}{6}$ of a grain for adults.

Lactucarium. The syrup of lactucarium is a useful vehicle for the exhibition of other medicines.

Lobelia has been used successfully, especially after the cessation of the catarrhal stage. It is adapted to cases in which the cough is dry, resonant and spasmodic. It succeeds best in those who have attacks of cough with spasmodic difficulty of breathing, and who get up a litte tough mucus after long and painful paroxysms of coughing. (BARTHOLOW.)

Morphia, especially the bimeconate, in small doses, is an excellent sedative for the cough.

Morrhuæ Oleum. Mr. PRESTWICH (*Lancet*, December 9th, 1871,) reports a few cases, selected from more than thirty in his own practice, in order to show the value of cod-liver oil in this complaint, which he looks upon as a specific.

Petroleum. Dr. LESSER rocommends rubbing the chest twice a day with a teaspoonful of this substance.

Potassii Bromidnm and *Ammonii Bromidum* are popular and efficient sedatives. They may be combined with belladonna, or syrup of wild cherry:

292. ℞.	Potassii bromidi,	gr. j–v	
	Extracti belladonnæ,	gr. $\frac{1}{6}$–j	
	Syrupi papaveros,	♏xv	
	Aquæ,	f. ʒ ij.	M.

For one dose every two or three hours. (Dr. E. ELLIS.)

Potassium Chloridum. Jacques Munk, in *Pester Med. Chir. Presse*, 1880, reports favorably on the use of chloride of potassium in from one-half to two-grain doses, given with one-sixth of a drop of laudanum, every two hours.

Potassii Nitras. The inhalations of nitrous fumes has been recommended.

Potassii Sulphuretum, commended by Dr. MACKELKAN, of Canada, in doses of gr. iij–vj in sweetened water. Its beneficial effects are not perceived for five days, when the intervals between the paroxysms of cough become longer, and, after that, their violence diminishes from day to day, until,

at the end of ten or fourteen days, it is seldom necessary to pursue the treatment further. As the drug easily spoils by keeping, it is important to have it fresh.

Quiniæ Sulphas is regarded as an almost certain abortant by many. (See above.) Dr. C. F. SWAN, of Chicago, (*Med. Jour. and Examiner*, 1877,) recommends Prof. C. BINZ's formula:

293. ℞. Quiniæ sulphatis, ℥j
Acidi tannici, gr. xv. M.

This aborts one-third to one-half the cases, in three or four days. Dr. LASINSKY treats his patients by insufflations of a powder composed of 15 grains of hydrochlorate of quinine, 30 grains of salicylic acid, and 7 grains of bicarbonate of soda and white sugar. A small quantity of this powder is blown into the larynx twice a day. He states that, in the course of eight days, the attacks become greatly reduced in violence and frequency. (DOBELL's *Reports*, 1877.) It is also recommended by Dr. W. THORNTON PARKER, U. S. A., who gives every two hours a teaspoonful of a solution of sulphate of quinine, four, six, eight or even ten grains to the ounce (*Medical and Surgical Reporter*, 1883.)

The following is recommended by a British authority as almost a specific in this disease.

294. ℞. Quiniæ sulphatis, ℈j
Sol. acid. hydrobromic, (Fothergill), ℥jss
Syrupi altheæ, f. ℥jss
Aquæ, ad f. ℥vj. M.

S.—A dessertspoonful four times a day. The dose to be increased according to age.

Sodii Benzoas. TORDENS has used it successfully in *Whooping Cough*, using the prescription of LETZERICH.

295. ℞. Sodii benzoat., ℈iv
Aq. destil.,
Aq. menth. pip., āā ℥x
Syr. aurantii, ℥ij. M.

S.—Two drachms every hour or two. (BARTHOLOW.)

But, on the contrary, Dr. J. SHELTON HILL, of Maryland, has found that it has no influence on the frequency of the paroxysms and but little on their intensity, though it did check the vomiting (*Medical and Surgical Reporter*, 1880).

Terebinthinæ Oleum, in pertussis complicated with irritative fever, bronchitis, or convulsions, is praised by Dr. BEDFORD BROWN, of Alexandria, Va. It is also highly recommended by M. BARETY, of Nice, (*l'Union Médicale*, 1881). He places deep plates containing this liquid under the head of the bed and in the corner of the room. The paroxysms of coughing soon become less marked, and the malady, taking on a benign character, generally lasts about one month.

Tonka Bean has been employed with success by Dr. JOHN COOPER, of Philadelphia; gtt. v–viij of the fluid extract every three hours, to a child five years old.

INHALATIONS.

The inhalation of very numerous substances has been tried in whooping-cough. Referring for the complete list to the works of Dr. J. SOLIS COHEN and others, we mention as most promising of success:

Alumen. ℥j to water ℥vj, to be used twice daily, ten minutes at a time. (SIEGLE.)

Ammoniæ Liquor, f.℥j to a gallon of boiling water. Place in an open pan by the bed-side, and evolve steam by introducing a red-hot brick.

Amyl Nitrite, gtt. ij–iij, on a handkerchief, when a paroxysm is impending.

Argenti Nitras, gr. ss–j to water f.℥j. Inhale by a nebulizer f.℥ss twice daily. Protect the face with a mask, or by smearing with salt and butter.

Belladonna. Make an infusion and inhale the vapor; or, better, throw about ℥ij of the leaves on burning coals, and let the patient inhale the smoke. (SCHROEDER.)

Benzine. Place small quantities in a number of shallow vessels about the room.

Benzole. A writer in the *Lancet*, 1881, recommends benzole vapor as prepared by an atomizer.

Brominium. Dr. VOGELSANG, of Switzerland, finds that one or two scruples of *bromine*, and as much *bromide of potassium*, to a tumblerful of hot water, placed in the room of a child suffering from whooping-cough, affords it great relief. The mixture should be renewed three or four times a day. Dr. J. J. CALDWELL recommends:

296. ℞. Potassii bromidi, ℈j
Ammonii bromidi, ℈ij
Extracti belladonnæ fluidi, gtt. x
Aquæ destill., f.℥ij. M.

A tablespoonful once or twice daily with a nebulizer.

Dr. WIMTREBEN (*La France Médicale*, 1880,) habitually uses a solution of bromide of potassium, one in twenty, and repeats the application of the spray for one minute after each fit of coughing, when the mucous membrane of the breath passages, free from the mucus which usually covers it, is accessible to the action of the remedy.

Calcis Carbolas. Dr. E. M. SNOW, of Providence, R. I., has often recommended *carbolate of lime* as a remedy to relieve the spasmodic fits of coughing in this disease, and the evidence is abundant that it is of real value for this purpose. It is used by exposing it to the air in the rooms where the children live and sleep, so that the odor will be plainly perceptible at all times.

Carbolicum Acidum, in a solution of one and a half to two per cent., boiled in a Siegle apparatus and inhaled three times a day into the widely-opened mouth. The violent paroxysms of cough disappear in two or three days. (BURCHARD.)

Carbonicum Acidum, by inhalation, is highly recommended by several authorities in the *Rev. de Therapeutique*, 1883. It is obtained from an apparatus for making seltzer water, and is slowly inhaled through a long rubber tube placed at the nasal orifice.

Chloroform may be inhaled to check the coughing.

Cresolene is recommended by Dr. J. H. EAGAN. (See page 256.)

Ether is valuable for the same purpose.

Ferri Tinctura Chloridi, gtt. iij–x to water f. ʒj, in the nebulizer, sometimes succeeds remarkably.

Quiniæ Tannatas. Dr. POLLAK, of Austria, recommends the following:

297. ℞. Quiniæ tannatis,
Sodii bicarbonatis, āā 5 parts
Pulv. acaciæ, 100 parts. M.
S.—Use with an insufflator.

Sodii Carbolas, is called by Dr. PERNOT, of Lyons, a specific in the disease. He places the carbolate of soda in a small porcelain crucible held above the flame of a spirit-lamp, which keeps it at an unvarying temperature as long as wished; the carbolate of soda becomes volatilized, so that scarcely any of it remains in the crucible, but the atmosphere of the sick room is impregnated with the vapor of carbolic acid mixed with the elements of coal-tar. The little apparatus above described is not always at hand, but a fire-brick is generally to be had, either in town or country, and this, heated to a sufficiently high temperature to vaporize the carbolate of soda, is generally employed by Dr. PERNOT.

Sulphurosum Acidum, evolved by sprinkling some flour of sulphur on red-hot coals, has been extensively employed in Europe in whooping-cough.

Terebinthinæ Oleum, in vapor, has been repeatedly praised in this disease. Professor SKODA directs that some be poured on boiling water and the patient inhale the vapor for fifteen minutes at a time. Dr. A. GERTH, of Switzerland, prefers that twenty drops be placed on a handkerchief, held to the mouth and nose, and inhaled in thirty or forty deep inspirations. This is repeated thrice daily.

PLEURITIS.

DR. LOUIS STARR, OF PHILADELPHIA.

According to this author (*Archives of Pediatrics*, 1884,) the child must be kept at perfect rest in bed. Over the affected side he applies a poultice to act as a counter-irritant, drawing the blood to the surface and relieving the congestion of the pleura. As there is an inflammatory

fever, a light and nutritious diet must be selected, since fevers of this kind are accompanied by gastric catarrh, and strong food cannot be digested. The only medicines indicated are diaphoretics, as:

298. ℞. Spts. ætheris nitrosi, f.℥ij
Liq. potassii citratis, q. s. ad f.℥iij. M.
S.—A dessertspoonful every two hours.

Sometimes, after fever has subsided, you will hear a friction sound on auscultation, especially when the breathing is forced, as it is after running or coughing, showing that plastic exudation has taken place, and that there may, perhaps, be a tendency to adhesion between the two pleural surfaces. Under these circumstances, an alterative is called for, to favor the absorption of the effused lymph. For this purpose iodide of potassium is most useful; beginning with doses of one or two grains in half a fluid drachm each of compound syrup of sarsaparilla and water, three times a day; or, if there be anæmia, ten drops of the syrup of the iodide of iron three times a day may be substituted. Locally, an ointment consisting of equal parts of the compound iodine ointment and lard may be applied twice a day. If the tincture of iodine is used, inflammation of the skin is likely to be produced, and after this has occurred no more of the iodine is absorbed. The ointment, when properly diluted, causes no such result. The iodine is absorbed, and thus we get an alterative effect, in addition to a counter-irritant action.

DR. ARMAND SEMPLE, OF LONDON.

In *acute pleuritis* the child may be enveloped in a large jacket poultice. With a strong, healthy child a few leeches may be placed on the side, and a saline diaphoretic administered, such as acetate of ammonia or nitrate of potash combined with a little antimonial wine; a grain of calomel combined with the compound ipecacuanha powder is useful. The regimen should be antiphlogistic. In *chronic* pleuritis the diet must be liberal; good food and wine should be given. Blisters may be applied from time to time. The chest may be painted with iodine. Iodide of potassium, bark, squills, digitalis, and acetate of potash may be given internally. In anæmic children, tonics, such as quinine, strychnia, the various preparations of iron and cod liver oil, may be given. When the process of absorption fails, the lung becoming seriously compressed, giving rise to urgent dyspnœa, the pulse being

irregular, the heart feeble or the fluid becoming fœtid, and great constitutional disturbance occasioned, the patient being in danger from hectic fever and septicæmia, the operation of *paracentesis thoracis* is demanded, and care should be taken that this operation is not delayed too long. The following are the cases calling for paracentesis:

1. Those cases in which the fluid is so abundant as to fill one pleura and induce compression of the lung of the opposite side.

2. Cases of double pleuritis, in which the whole amount of fluid may possibly occupy a space equal to the capacity of the two pleural cavities.

3. Cases in which the amount of effusion has given rise to one or two attacks of orthopnœa.

4. Cases in which a large effusion has existed for a long time (a month or so), and in which there has been no indication of progressive absorption.

5. In every case in which the contained fluid is suspected to be purulent, an exploratory puncture should be made and the fluid evacuated.

DR. EDWARD HENOCH, OF BERLIN.

At the onset, when severe pain is present, he considers the application of a number (corresponding to the age) of wet cups (dry cups in feeble children) as necessary. Hydropathic applications should also be made constantly, while infusion of digitalis, combined with nitrate of potash, is given internally.

299. ℞.	Inf. digitalis,	f. ℥ iij	
	Potass. nit.,	gr. xxx–xlv	
	Syrup,	f. ℥ v.	M.

S.—Teaspoonful every two hours.

Calomel and digitalis also do good service, especially when constipation is present.

300. ℞.	Calomel,	gr. ¼	
	Pulv. digital.,	gr. ⅙	
	Sacch. alb.,	gr. j.	M.

S.—Give this powder every two hours.

With the increase of exudation, diuretic treatment comes to the foreground, viz.: infusion of digitalis and acetate of potash, In sub-acute cases he recommends infusion of bark, with acetate of potash, cod-liver oil, whey and country or mountain air.

S. HENRY DESSAU, M. D., NEW YORK CITY.

It is observed by this writer (*Medical Record*, September, 1878,) that pleurisy is frequently overlooked when it occurs in infants. For its detection as well as an aid to treatment, he recommends that whenever a doubt exists in the mind of the physician in regard to the diagnosis of even the simplest case of pleurisy, it should at once be cleared up by an exploratory puncture of the chest-wall with an ordinary hypodermic syringe, as recommended by EUSTACE SMITH, and later by Dr. THOMAS BARLOW and Mr. R. W. PARKER, of London. The operation is perfectly harmless, does not give much pain, and may be repeated several times if necessary. The puncture is best made in the intercostal space, immediately below and on a line with the angle of the scapula. When the effusion is localized or circumscribed, as is sometimes the case, the puncture is advised, by the last-mentioned writers, to be made over the centre of maximum dullness.

Dr. DESSAU has frequently found the withdrawal of a syringeful of fluid, obtained on exploratory puncture, to rapidly hasten the absorption of the effused fluid. This has been explained as due to the relief of pressure stimulating the absorbents of the pleura.

For internal treatment he prefers small doses of infusion of *digitalis* together with syrup of the *iodide of iron*. Moderate counter-irritation over the back is occasionally useful, and as a tonic to hasten convalescence, sulphate of cinchonidia.

EDWARD ELLIS, M. D., LONDON.

This writer is satisfied of the relief which *calomel and opium* often give in the acute pleurisy of childhood, and sees no objection to their employment. The best form is:

301. ℞. Hydrargyri chloridi mitis, gr. ss–j
Pulveris ipecac. et opii, gr. j–iij. M.

He can speak well of both *aconite* and *veratrum viride* in the earliest stages, but both of these, especially the latter, must be discontinued as soon as a decline in the pyrexia is established.

For the relief of the pain we may prevent the movement of the side by fixing it in place by strips of adhesive plaster several inches wide, and long enough to reach from the middle of the spine to the middle of the sternum. They should be applied at the close of an expiration,

while the lung is emptied of its air. Another means is a lotion of aconite or opium applied immediately over the painful spot, and covered with a poultice.

Later in the disease, when the pyrexia has disappeared, a combination of iodide and citrate of potash with digitalis will be found very useful, *e. g.*:

302. ℞.	Potassii iodidi,	gr. viij	
	Potassii nitratis *vel* citratis,	gr. xxxij	
	Infusi digitalis,	f. ℥j	
	Syrupi,	f. ℥ij	
	Aquam,	ad f. ℥iv.	M.

A tablespoonful for child six years old.

Care should be taken that the infusion of digitalis be freshly made.

For the treatment of the effusion, painting the side with iodine tincture, or a succession of flying blisters, or finally, paracentesis thoracis, are our resources. The last-mentioned operation is growing more into favor, the more extensively it is adopted. It should not be postponed until the patient is *in extremis* and the powers of nature are exhausted.

DR. THOMAS BARLOW AND MR. R. W. PARKER.

In regard to the treatment of pleuritic effusions in children, these writers (*British Medical Journal*, August 25, 1877,) strongly recommend an exploratory puncture, and the removal of a small quantity of serum. When the history is recent, and the effusion serous and small, they abstain from further operative interference. When three weeks elapse without improvement, they recommend the additional removal of a small quantity, either by the hypodermic syringe or the aspirator. If the effusion be considerable, it is right to perform paracentesis at once; not only to relieve dyspnœa, but to give the lung a chance of re-expansion before adhesions bind it down. Paracentesis should be performed quite irrespectively of pyrexia.

As to drugs, they have seen no benefit whatever from their use in pleuritic effusion. No harm results from the external application of *iodine;* indeed, it has seemed that its use, combined with the internal administration of *iodide of potassium*, has produced benefit. In this, as in every other wasting disease of childhood, cod-liver oil is invaluable.

If the exploratory puncture reveals the presence of pus, it is recommended to withdraw as much as possible with the hypodermic syringe.

It is quite marvelous to observe the rapid improvement which frequently follows the emptying of a very small collection of pus. If the quantity of pus removed be incommensurate with the extent and intensity of the dullness, subsequent punctures must be made. If the pus does not become fœtid, and if at each successive operation the quantity notably diminish, there seems no reason to limit the number of attempts to cure the empyema by repeated aspiration. If the pus should become fœtid, or rapidly re-accumulate in larger quantity, permanent drainage is recommended. In all cases, it is contended that this should be by a double opening. If possible, the first opening should be made in the front of the thorax, and the second below and internal to the angle of the scapula. A long probe, threaded with a piece of drainage-tube, may be passed downward and backward from the first opening, and the second incision made ever the point of the probe when it is felt through the integuments. The drainage-tube should then be drawn through and secured by tying the two ends together.

Most of the cases with which they have been concerned have been dressed with oakum. They have seldom had need to use stimulant injections; but in one case they saw marked and rapid improvement from the use of a solution of *quinine*, 5 grains to the ounce. One of the strongest arguments in favor of the method of double openings is that in a large proportion of cases, it dispenses with the need of washing out the empyema cavity. It is well known that washing out the chest has been followed, in a certain number of cases, by sudden death.

NOTES ON REMEDIES.

Sodium Chloridum. Common salt has been found very useful in pleuritic effusions by Dr. Tom Robinson (*British Medical Journal*, 1883). He gives to an adult one drachm in a wineglass of water twice a day. The dose should be proportionately decreased for children.

PNEUMONIA.

DR. EDWARD HENOCH, OF BERLIN.

According to this author, the expectant treatment, usually recommended in the pneumonia of adults, will also hold good during the

period of childhood. He only uses wet cups when there is intense dyspnœa and great extension of the pneumonia, and in a complication with severe pleurisy when required on account of violent pains in breathing and coughing. When the pneumonia is restricted in extent and the pleuritic complication is absent, or at least does not occupy the foreground, bleeding should not be employed, and it is best to resort to cold applications or fomentations to the chest (see bronchitis) which, so long as the high temperature continues, are renewed every half hour, later every hour or two. The application of an ice-bag to the head or abdomen is also advisable. He has ceased the use of quinine and other antipyretics, and confines himself to the local application of cold. Internally he gives digitalis and nitrate of potash.

303. ℞. Inf. digitalis, f. ℥ iij
Potass. nitrat., gr. xxx–xlv
Syrup, f. ℥v. M.
S.—Teaspoonful every two hours.

This, however, is contra-indicated by any gastric complication (repeated bilious vomiting, thickly-coated tongue, nausea). In this event he orders:

304. ℞. Acid. hydrochlor., gtt. j–xv
Aq. destil., f. ℥ iij
Gum. arab., gr. xv
Syr., f. ℥v. M.
S.—Teaspoonful every two hours.

In very rare cases he has given tartar emetic, when bilious, gastric symptoms (constant frontal headache, vomiting, fœtor of the breath) were prominent, and it was always very successful in such cases.

DR. ARMAND SEMPLE, OF LONDON.

This author recognizes two types of pneumonia which demand very different handling—the one sthenic or plethoric, the other asthenic. The former is, at the present day, comparatively very rare, the large majority of cases being of the latter kind. The sthenic form may require blistering and leeches, with depletory remedies, such as mercurials and antimonial preparations. The asthenic form will derive benefit by the application of jacket poultices of linseed-meal, *i. e.*, encircling both the back and chest of the patient; the linseed-meal should have the oil crushed in it, and a little oil should be smeared over the surface of the

poultice. These poultices should be tolerably thick, moist, thoroughly warmed and frequently changed. Decoction of poppies may be used in place of water for forming the poultices, if severe pain is present. Internally aconite preparations, ipecacuanha, citrate of potash, acetate of ammonia, spiritus ætheris nitrosi and senega, may be administered. The strength should be supported by strong beef tea, eggs and milk, and if the exhaustion be very great, carbonate of ammonia, brandy or port wine may be given. If the sputa be viscid, and urine cloudy, alkalies are indicated. For want of sleep, hydrate of chloral may be used, and it is advisable to combine this drug with belladonna, by which the enfeeblement of the vaso-motor system, and the diminished activity of the respiratory centres, caused by the chloral hydrate, are obviated. The above-named drugs, especially aconite and hydrate of chloral, must be very cautiously administered. Bromide of potossium is a safer remedy than chloral, since it exerts a sedative action on the nervous system by depressing the action of the heart. During convalescence, cod-liver oil and iron preparations are the appropriate remedies.

DR. SILBERMANN, OF GERMANY.

This author describes in the *Deutsch. Arch. für. Klin. Med.*, 1883, a form of *septic pneumonia* in children, which, from his remarks, it would seem is always fatal. He thus describes it:

1. The septic pneumonia of infants and nursing children, and which begins as a tracheo-bronchitis, is a catarrhal, and very often a foreign-body pneumonia.

2. It begins by the aspiration of decomposing amniotic fluid and genital secretions, or by the inspiration of strongly-infected air from some septic disease of the mother.

3. Septic pneumonia of infants frequently accompanies diseases of the pleura, but seldom of other organs.

4. The alveoli and bronchi of the lungs of children dead of septic pneumonia are filled with bacteria.

5. The blood shows an increased amount of white globules, and a broken-down condition of the red.

6. Icterus is not a constant accompaniment of the disease.

7. The time at which the disease occurs is from one to two days after birth, and death usually takes place in about two days.

DR. JOHN M. KEATING, OF PHILADELPHIA.

In the first stage of *croupous pneumonia* this author uses (*Medical and Surgical Reporter*, 1882,) large, thinly-spread mush or flaxseed meal poultices as hot as the child can bear them (to be tested by the hand) changed every three hours and covered with oiled silk, which he prefers to hot baths, though hot foot baths, with a tablespoonful of mustard can be used twice or thrice daily. He also gives the bisulphate of quinia, gr. iij, twice daily, by suppository, to keep down high temperature, with instructions to use one of gr. v should the temperature register 105°. He also uses whisky or brandy in ʒj doses, to aid the suppository in reducing temperature, if required; the desire being to keep the temperature below 105°. He insists strongly on the importance of making out for the mother or attendant a register of diet and medicine, to be strictly adhered to, so that you can readily see what your patient is getting. If the patient is fretful or sleepless, you can give two grains of Dover's powders, using the bromide, instead of the sulphate of potassium, at night. When mucous râles are heard over entire consolidated lung, you can replace the poultices, by a thick layer of cotton wadding, changing it twice daily, and rubbing the surface of the chest with the following liniment:

305. ℞. Ol. succini, f. ʒij
Liniment saponis, f. ℥vj. M.

You may use cod-liver oil, in place of sweet oil in the liniment. In a few days he uses an external application of the following:

306. ℞. Tinct iodinii, f. ʒj
Ol. myrrhæ; ol. olivæ, āā ℥vj. M.
Sig.—Well rubbed in.

If you wish now to give tonic doses of quinia and iron in some form. You can order:

307. ℞. Quiniæ et ferri citratis, gr. xij
Syr. limonis, f. ℥ss
Aquæ, q. s. ad f. ℥iii. M.
S.—Dessertspoonful three times daily.

Or:

308. ℞. Ferri ammon. citrat., gr. xij
Syr. amyg. amar., f. ℥ss
Aquæ, q. s. ād f. ℥iij. M.
S.—Dose ʒij–iv.

And give the quinia still by suppository. If the cough is loose, but annoying, he gives:

309. ℞.	Ammon. muriat.,	gr.viij	
	Syr. scillæ,	♏clv	
	Tinct. opii camph.,	♏xxiv	
	Syr. tolut,	q. s. ad f. ℥ij.	M.

S.—Teaspoonful three times a day.

And if the secretion is free and you think it advisable to act gently on the intestine to carry off the accumulated mucus, you can use:

310. ℞.	Lig. potass. citratis,	f. ℥j	
	Syr. pruni virg.,	f. ℥ss	
	Glycerinæ,	f. ℥ij.	M.

S.—Dose ℥ii–iv.

In the third stage, the greatest danger is from weakness. Here the child needs supportive treatment—iron in particular, quinine, milk-punch or wine-whey, cod-liver oil, with the phosphates and the hypophosphites. He orders, especially if the children are run down:

311. ℞.	Syr. ferri. iodidi,	f. ℥j	
	Emul. ol. morrhuæ (fifty per cent.),	f. ℥iij	M.

S.—Dessertspoonful t. d.

M. JULES SIMON, OF PARIS.

According to the *Medical Press* and *Circular*, 1882, M. Simon recommends dry cupping at the beginning and poultices. The next day or the following, small blisters, left on for three or four hours, and when taken off, another poultice applied and left on for an hour, when the blisters will have arisen and can be dressed. This revulsive treatment should be continued throughout the whole course of the disease. Internally, he gives:

312. ℞.	Tinct. scillæ,			
	Tinct. digitālis,	āā	gtt. x	
	Syrupi,		f. ℥j	
	Aquæ acaciæ,		f. ℥iij.	M.

S.—A teaspoonful every two hours.

The digitalis and the squills should be suppressed after four or five days. Milk should be freely given, as it acts as a good diuretic.

THOMAS HILLIER, M. D., LONDON, F. R. C. P., ETC.

Usually the best treatment in the lobular pneumonia of children is to

keep the patient in bed in a room of about 60°, well ventilated, without a draught, milk diet during the height of the fever, and when the temperature falls, some good beef tea, and a simple saline mixture, such as:

313. ℞. Potassii citratis, ℈j
Syrupi aurantii, f. ʒij
Aquam, q. s. ad f. ʒij. M.
Two teaspoonfuls as required.

The tendency of the disease in children is to recovery. The great point is to do nothing which will interfere with rapid convalescence. Antimony is seldom desirable or necessary; if given at all, it should be confined to those cases in which the pulse is full and strong, the temperature very high, and the skin and mucous membranes very dry and injected, and it should be given only for a short time, at an early stage of the disease. Courter-irritation is not much to be relied upon. When there is severe pain in the side, a mustard plaster is of service. Blisters are seldom or never to be recommended, certainly not in the acute stage. If resolution comes on very slowly, and there is persistent pleuritic pain, an occasional flying blister will be of service. Calomel is not to be recommended except as an occasional aperient. If the pneumonia is complicated with bronchitis, and the bronchi contain much mucus, a stimulant expectorant is indicated, such as:

314. ℞. Ammonii carbonatis, gr. viij–xij
Tincturæ scillæ, ♏xx
Syrupi, f. ʒij
Decocti senegæ, q. s. ad f. ʒij. M.
Two teaspoonfuls for a child three years old.

During convalescence, the use of iron, in a mild form, is of service, as:

315. ℞. Ferri et quiniæ citratis, ℈j
Syrupi limonis, f. ʒij
Aquæ, q. s. ad f. ʒij. M.
Two teaspoonfuls thrice daily.

EUSTACE SMITH, M. D., M. R. C. P., ETC., LONDON.

316. ℞. Liquoris ammonii acetatis, f. ʒiv
Potassii nitratis, ʒj
Potassii bicarbonatis, ʒiss
Spiritûs ætheris nitrosi, f. ʒiss
Aquæ carui, q. s. ad f. ʒvj. M.
A tablespoonful every third hour for a child six or seven years old, in cases of "pulmonary phthisis." At the same time, the chest should

be kept covered with hot linseed-meal poultices, frequently renewed, and the child confined to his nursery or bedroom.

After the cough has become loosened, and the oppression of the chest has subsided, expectorants should be given with an alkali:

317. ℞. Spiritûs ammoniæ aromatici,
Spiritûs ætheris nitrosi,
Vini ipecacuanha, āā f. ℥j
Potassii bicarbonatis, ℈j
Infusi calumbæ, q. s. ad f. ℥vj. M.
A tablespoonful every sixth hour.

Afterward, when the secretion is free, easily brought up, and the fever has disappeared, an astringent is useful, combined with expectorants and a little opium.

318. ℞. Liquoris ferri pernitratis,
Acidi nitrici diluti, āā f. ℥j
Tincturæ opii camphoratæ, f. ℥ij
Oxymellis scillæ, f. ℥j
Infusi calumbæ, q. s. ad f. ℥vj. M.
A tablespoonful thrice daily.

When unabsorbed pneumonic deposits continue, alkalies are extremely useful. The inhalation of sprays of weak solutions of bicarbonate, nitrate, or chlorate of potash, promotes expectoration.

In chronic pneumonic consolidation, irritants are sometimes useful:

319. ℞. Olei tiglii, f. ℥j
Linimenti saponis, f. ℥j. M.
To be rubbed into a limited spot on the chest twice a day till pustulation, and then once a day for a week.

So long as there is much heat of the skin, counter-irritants should not be employed.

PROF. J. LEWIS SMITH, M. D., NEW YORK.

In the earlier stages, the following is a useful formula for a child of five years:

320. ℞. Tincturæ ipecacuanhæ compositæ, gtt. xvj–xxiv
Tincturæ aconiti radicis, gtt. xvj
Syrupi tolutani,
Aquam, ad f. ℥j. M.
One teaspoonful every three hours.

In the second stage—that is, when there are signs of lung hepatization, such as bronchial respiration and dullness on percussion—aconite and veratrum viride do harm. The following may then be employed:

321. ℞. Morphiæ sulphatis, gr. j
Syrupi ipecacuanhæ, f. ℥j
Syrupi tolutani, f. ℥iij. M.
Teaspoonful every three hours.

In feeble children, and in secondary pneumonitis, *quinine* is preferable to any other agent, for reducing the temperature and pulse, as it does so without causing depression.

LEONARD WEBER, M. D., NEW YORK.

In simple pneumonia, whether of children or adults, this practitioner states (*American Journal of Obstetrics*, April, 1878,) that he has been accustomed to prescribe:

322. ℞. Infusi digitalis (℥ss of the leaves), f. ℥vj
Sodii nitratis, ℥j. M.
A teaspoonful every two or three hours, to a child of ten, when the pulse and temperature are high.

When there are signs of the heart giving out, camphor, carbonate of ammonia, and wine, are required. Protraction of resolution in the lung is often caused by a state of acute anæmia, and demands a liberal diet, the discreet use of stimulants, and *iron*.

In severe and extensive broncho or catarrhal pneumonia, a most valuable resource is the *hot mustard bath*.

As soon as pneumonia develops, in cases of capillary bronchitis, the temperature rises to 103°, or more, in a few hours, the pulse beats fast, the face becomes flushed, the child is exceeding restless, wears an anxious expression of countenance, but soon becomes apathetic and somnolent. The course of the disease is rapid, and ends fatally, by cyanosis. He immerses the patient in a hot mustard bath (105°), prepared by diffusing a pound of mustard in a baby-tub full of hot water, keeping the child in ten minutes, making thorough friction all over the surface, until the skin becomes pinkish. Then the patient is put in a warmed bed. If necessary, repeat in four hours. Its *modus* of action is "ubi irritatio, ibi affluxus"—it relieves the congested lung and overburdened heart, by increasing the amount of blood in the peripheral circulation; also by stimulating, reflexly, the vaso-motor centres.

It may be claimed for the use of the bath, that it is easily prepared; that the materials for it can be procured in the household of the poor as well as the rich; that its action is prompt; that there is no danger whatever, in applying it as often as the urgency of the case may require

it, and that it is a valuable means of fulfilling the vital indication in severe cases of pneumonia in children.

Q. C. SMITH, M. D., CALIFORNIA.

In all acute pulmonic inflammations in small children, this practitioner states (*Pacific Med. and Sur. Journal*, January, 1878,) that he has for several years used, with very satisfactory results, the *moist girdle*, as directed by VOGEL, of Dorpat; and he has found the measure greatly to promote relief. He manages it thus: A piece of white woolen flannel, two yards long, wide enough to cover the patient's body from the hips close up under the arm-pits, after being wrung out of warm water, so that it will not drip, is closely, but not oppressively so, wrapped around the body, and the terminal end secured by two small pins. This moist wrapper is snugly covered by a dry one, which outer wrapper must be changed as often as it gets wet. The inner wrapper should not, ordinarily, be removed for several days, but is to be kept moist by applying, as often as necessary, warm water, with a small, soft cloth or sponge. In from four to seven days, when the more urgent symptoms have been subdued, the moist girdle may be supplanted by a dry one, which should be applied for a few days longer. Of course the attendant will not neglect to make use of such other remedies and measures as may be deemed necessary in any given case.

PROLAPSUS ANI.

DR. EDWARD HENOCH, OF BERLIN.

Prolapsus ani is most common during the first year, though cases are quite often met with from two to six years. It is always protracted and may last for months or years. Temporary improvement and unexpected relapses are not infrequent. As a rule, reposition and the use of the tampon are merely palliative measures, which do not prevent the return of the prolapse. In replacing the prolapse (performed best in the knee and elbow position) the central portion, which was last protruded, should be pushed back first, two fingers of the right hand, which is covered with an oiled piece of linen, being placed in the central opening of the prolapse and gently pushed upward. If the chil-

dren struggle violently, it may be necessary to use chloroform, and then introduce a tampon to prevent the immediate recurrence of the prolapse. Our author has had the best results from the subcutaneous injection of ergotin in the perineum and in the immediate neighborhood of the anus. In children, one and one-half to three years old, he injects daily $\frac{1}{3}$ of a grain of ergotin at once, and distinct improvement is usually observed in a week. We may introduce, daily, ice into the rectum or use enemata of tannin, alum or other astringents. When all these methods fail, surgical treatment alone remains, either excision of some folds of skin around the anus (Dupurytren) or punctate cauterization with a fine actual cautery in the immediate vicinity of the anus, the action of which is intended to penetrate to the external sphincter. In every method of treatment, we should see to it that the children discontinue violent straining. The prolapsus occasionally remains absent, if the fæces are passed while lying in bed, as the abdominal pressure acts much less vigorously, and he therefore advises that the children be not allowed to sit on the chamber in the usual manner, with the feet braced against the floor, but that the vessel be placed on a firm chair or table, and the children be held firmly upon it, with the feet hanging loosely. If the patient is constipated, the passages should be softened by purgatives; while, in the event of a protracted diarrhœa or dysentery, the successful treatment of these conditions may suffice to relieve the collapse.

ARCHIVE DE PHARMACIE.

In this journal (1882), a physician reports most satisfactory results from the use of suppositories, containing from two to three grains of ergotin. He remarks that the effects of this remedy were almost miraculous; after the application of a few suppositories, the ailment was cured.

NOTES ON REMEDIES.

Opium. Two minims of laudanum in water three times a day, along with an astringent lotion locally, has been used with some success by Mr. Scott Battams (*Med. Times and Gazette*, 1882).

RACHITIS (RICKETS).

EDWARD ELLIS, M. D., LONDON.

Fresh air, abundant and nutritious food, and frequent bathing, are measures always demanded in this disease. Tepid salt-baths followed by friction with a towel over the whole body are most useful. Bleeding, blisters or mercury are never to *be thought of*. Of medicines none is more valuable than *cod-liver oil* combined with an equal portion of lime water, and the compound syrup of the phosphate of iron, f.℥j every day. To check the extreme perspirations which often occur, *tannin*, gr. ½–j, thrice daily, or *belladonna*, may be given. For the diarrhœa, a gentle purge, as rhubarb and soda, with some carminative, or a dose of castor oil, will be useful.

P. BRYNSBERG PORTER, M. D., NEW YORK.

In the treatment, aside from the regulation of the diet and the improvement of the hygienic conditions of the child (which are, of course, matters of vital importance), there are no remedies which, in the opinion of this physician, are to be compared to *cod-liver oil* and the *syrup of the iodide of iron*. They should be intermitted from time to time, and especially if diarrhœa occurs, as it not infrequently does in rachitis. Where they are not well borne (and such cases are according to his experience very rare exceptions), an emulsion of cod-liver oil with bitter almonds, to which the hypophosphites of lime and soda are added, will often be found an excellent substitute; and it has the advantage of usually not affecting the bowels unfavorably when diarrhœa is present. It is a mistake to be too sparing of the oil, and teaspoonful doses several times a day can be borne by quite young children.

C. CURRIE RITCHIE, M. D., MANCHESTER.

The treatment of rickets requires as its essential condition the restoration of a healthy nutrition—hence diet and hygienic measures are of the utmost importance. Regular feeding at stated intervals; abundance of milk with a fourth part of lime water, and the addition of a teaspoonful or two of cream to the half-pint; as the child gets older, a little beef tea with bread, eggs, or light puddings; if potatoes be given, they must be finely mashed with a little meat gravy; after eighteen or

twenty months, meat twice a day, or strong soup in small quantities—these are the chief dietetic indications.

Daily tepid chalybeate or salt-water baths, plenty of warm woolen clothing, warm but well-ventilated rooms, and as much dry open air (the bracing sea-air to be preferred) as practicable, are points which will at once suggest themselves.

As to strictly medicinal treatment, it has for some time been the stereotyped phrase in our text-books—"There is no specific remedy for rickets."

Cod-liver oil is one of our most important remedies. Its efficacy is greatly enhanced by a combination with iron. The *phosphate of iron* is the preparation which Dr. R. has found most benefit from; it may be given either as the simple syrup, or in the form of Parrish's compound syrup of the phosphates; in private practice he has found children take it remarkably well with the cod-liver oil.

Of course, before administering cod-liver and iron, we must see that the motions have become healthy and the tongue clean. Dr. R. usually employs Sir Wm. Jenner's plan for this purpose, viz.: to give a single dose of an aperient, such as a teaspoonful of castor oil, or a little gray powder with jalap, even though the bowels should be rather loose—as the stools are frequently most offensive, from the acidity which is always present in these cases, and which is relieved by an occasional dose of rhubarb, with soda or magnesia.

DR. ARMAND SEMPLE, OF LONDON.

This author agrees with all other writers on this subject, in stating that the greatest attention must be paid to hygienic conditions, and to the feeding of the infant. A wet-nurse should be substituted if the mother's milk is deficient either in quantity or quality, or carefully selected cow's milk may be provided. The most nutritious and digestible diet must be given after the child is weaned, and especially a diet containing a large amount of animal food. In rickety children, the teeth are generally defective, and as complete mastication is often impossible, their meat should be finely chopped and bruised in a mortar. The child should be taken out daily in the air and sunlight, and it should be suitably and warmly clad. Salt water baths may be given with benefit.

Impaired digestion and diarrhœa may call for vegetable tonics, iron

preparations, antacids, and mild astringents. Cod-liver oil should always be given, either alone or in combination with vegetable tonics and iron preparations. The cod-liver oil may be rubbed into the axillæ, or the groins, if its internal administration is attended with difficulty. The oil will sometimes be better tolerated when given in the form of emulsion, or when combined with lime-water.

To prevent deformities, the child should lie upon a smooth, firm mattress; no high pillows should be allowed, and, until the bones have become inflexible and firm, no sitting up for any length of time, or attempts at walking, should be permitted. During the earlier stages of the disease mechanical contrivances are not advisable, but during convalescence attemps should be made, by means of paste-board or leather splints, to control the deformities.

DR. EDWARD HENOCH, OF BERLIN.

This author maintains that we are unable to furnish a scientific basis for treatment, and must be satisfied that we almost always prove successful with empirical remedies. After insisting on the necessity of good hygienic surroundings, he says that to him it appears absurd to forbid the use of milk (as some do), since this interdiction is founded on some unreliable experiments concerning the injurious influence of lactic acid. In the large majority of cases of rachitis, recovery ensues despite untoward external circumstances, unless tuberculosis or some other complication occurs, or the general cachexia has reached too high a grade. He begins treatment with the milder preparations of iron, especially tincture of the chloride, eight or ten drops three times a day; if this (as he has sometimes observed) produces diarrhœa, he substitutes ferri lacticum or reductum (gr. ss–j twice daily). As a matter of course, the digestive organs must be in good condition in order to tolerate the iron. If anorexia, coated tongue, constipation or diarrhœa is present, he gives first hydrochloric acid, then mild bitters, especially tinct. rhei vinosa (10–12 drops three times a day), and the latter may be combined with iron. On alternate days, a lukewarm bath should be given, with the addition of salt or infusion of malt or aromatic herbs (about a handful of chamomile or calamus) and the lower limbs should be rubbed and kneaded with flannel in the bath, as well as several times during the day. We should persistently wash the occiput in order to relieve the profuse perspiration, and if there are

softened spots in the occipital bone, the head should be rested on a hair pillow, with a hole in it, in order to protect the part in question from pressure. Cod-liver oil he only gives in cool weather, chiefly in emaciated children, and never more than two tablespoonfuls daily, either alone or in combination with preparations of iron. He has never seen any good results from the administration of lime salts, and has long since discontinued their use.

DR. JOHN M. KEATING, OF PHILADELPHIA.

This authority on diseases of children says (*Medical and Surgical Reporter*, 1883), that in the *treatment* of these cases, your first thought should be as to their hygienic condition and surroundings; and see to it that these are as perfect as circumstances will permit.

Food next calls your attention. If the child is still nursing, experience will tell you that there is no food so well adapted to its use as the maternal milk, provided, of course, that the supply is sufficient and of proper quality, and that the mother is healthy. As the child grows older, its diet must still be uppermost in your plan of treatment.

We have no medicinal agent which acts as a specific in this disease (as iodine and mercury do in the syphilitic diathesis), but we must exhibit our drugs in order to meet special indications. Lime-water meets the condition of the gastro-intestinal tract, and also supplies the bones with the needed material. A good plan is to give it with the milk. Cod-liver oil should be your sheet-anchor to prevent emaciation. Give it either internally or by inunctions; the latter method acts marvelously in these cases.

Iron, as the tinct. of the chloride, must also be supplied as an hæmatic, and for its restraining property on the bowels.

Salt sea baths, among the rich, are good adjuvants to general treatment.

PROFESSOR F. FORCHHEIMER, OF CINCINNATI.

This author tells us that we must regulate the diet (*Archives of Pediatrics*, 1884.) Give milk and broth principally as food. Add salt to all the food you give the patient. Regulate the bowels. If you find that the child is constipated, you can often secure daily evacuations by some change in diet. If diarrhœa be present, treat it as you would any other catarrhal affection of the bowels. Every patient with rickets ought to receive a tepid or cool salt water bath every day. The bath

ought to be made by adding a handful of ordinary fish-salt to the bath. When the child comes out of it he is to be rubbed thoroughly with a towel, rough, if the child be old enough. Have the patient sent out into the fresh air every day; you can protect them against the inclemencies of the weather, but give them fresh air. Here, however, you must take precautions in that you may cause deformity. In order to prevent deformity, you will teach the child's attendants how to handle it—one hand under the nape of the neck and the other under the buttocks. If there is any danger of deformity of the spine, you must send the child out, resting on a pillow, in a perambulator or upon the arms of a nurse. Do not permit any attempts at walking until you are positive that the disease has run its course in the legs. His indications for the use of cod-liver oil are as follows: if a child is very thin, and over six months of age, you can begin carefully with small doses. Never give this remedy until you are positive that your patient has digestive organs that will bear the remedy. The oil sometimes acts very well, not only as to causing an increase in the child's weight, but also in regulating the bowels. The great objections to this remedy are, that it produces dyspepsia or intestinal catarrhs. You must not, however, think that because a child increases in weight it is improving; fat children frequently suffer with rickets. Neither must you prescribe cod-liver oil in every case of rickets, because it was once looked upon as a specific. The lime water also, in some cases, acts very well, but he believes with Baginsky, that its action is due, not to any specific properties, but simply because of its effect upon the milk. You will find it necessary in some cases to give iron preparations; and, in children over one year of age, when there is an appreciable tumor of the spleen, very small doses of arsenic are not only well borne, but seem to act beneficially both upon digestion and blood-making. Of the complications, it is necessary to speak, in detail, only of one—laryngospasmus or laryngismus stridulus. Against this much-to-be-dreaded complication you may use the bromides, chloral, or, if necessary, hypodermic injections of morphia. The parents and attendants are to be impressed with the physical and psychical treatment of their children; they must be told that a scolding or fright, or anything that may act suddenly upon the child, can produce an attack whose determination is always a matter of doubt. All other complications will be treated as indications may call for; never, however, neglect the anti-rhacitic measures.

NOTES ON REMEDIES.

Aqua Calcis, with milk, or cod-liver oil, is useful to prevent acidity and diarrhœa.

Calcii Lacto-phosphas. M. DUSART finds that in every case in which the diet, though sufficient in quantity, was unsuited to the digestive organs, the addition of lacto-phosphate of lime caused rapid improvement. Very interesting observations upon this subject have been collected in the large hospitals of Paris. (*Gazette Medical de Paris*, March, 1879).

Calcii Sulpho-carbolas. Dr. ERNEST SANSOM says he has used this "calcium salt (which is one of the most soluble known) in rickets . . . with uniformly good results, in doses of three to five grains, or more." Others who have tried it have been disappointed with it.

Ferrum, either as the phosphate or the iodide, is esteemed by all writers. Dr. AITKEN recommends:

323.	℞.	Vini ferri,	f.℥j–ij	
		Quiniæ sulphatis,	gr. j	
		Acidi sulphurici diluti,	♏j–ij.	M.

Oleum Morrhuæ is almost indispensable. Dr. WILLIAM GOODELL recommends it in small doses (gtt. xx, to an infant; but Dr. P. B. PORTER believes much larger amounts may be taken with advantage. If any of the oil is passed by stool, the quantity should be diminished.

Phosphorus. BARTHOLOW says that since phosphorus induces an hypertrophy of bone tissue, it should be carefully tried in this disease. It may be advantageously given in cod-liver oil.

Dog's Milk has been found by Dr. BERNARD, of Monttrum, France, to be the best of aliments in rickets. (*Gazette Hebdomadaire*, 1877).

RETRO-PHARYNGEAL ABSCESS.

DR. EDWARD HENOCH, OF BERLIN.

There is only one remedy, viz.: rapid incision. This author performs this operation with a straight, or, when the abscess is situated deep, curved bistoury or tenotome, which is surrounded with adhesive plaster nearly to the tip. The child's tongue is depressed with the left index finger, so that its tip touches and distinctly feels the tumor, the head being firmly held by an assistant. The finger is used as a director, the knife carefully carried along to its tip, *i. e.*, to the tumor, and then boldly plunged into the latter, whereupon the pharynx is immediately filled with yellow pus; the little wound is enlarged in withdrawing the knife. In order to facilitate the discharge of the pus, the

head of the child should immediately be inclined forward. After the incision, all is usually at an end, and complete euphonia is at once presented. Sometimes the abscess will have to be opened a second or even a third time. After the incision it will be well to use repeated injections of lukewarm water into the nasal and pharyngeal cavities, in order to clear out the blood and pus. If the operation is not performed in time, spontaneous rupture may occur during sleep, with aspiration of pus into the air-passages, and fatal suffocation. Or the pus may pass down behind the pharynx or œsophagus even into the mediastinum, and death occurs finally from exhaustion.

RHEUMATISM.

DR. EDWARD HENOCH, OF BERLIN.

Acute articular rheumatism is by no means rare in childhood, and is only distinguished from that occurring in adult life, by the milder character of its symptoms. In acute cases he employs, with the same success, as in adults, either salicylic acid or salicylate of soda, the latter especially in chronic cases.

DRS. MEIGS AND PEPPER, OF PHILADELPHIA.

The indications for treatment presented by acute rheumatism have been universally recognized as uniform, but the measures adopted to meet them embrace almost all known remedies.

The formula which our authors are in the habit of using is:

324. ℞.	Potass. acetat.,		ʒ j
	Potass. bicarb.,		ʒ j
	Tr. opii deod.,		gtt. xxiv
	Vel. tr. opii camph.,		f. ʒ ij
	Syr. zingiberis,		f. ʒ j
	Aquæ,	q. s. ad.	f. ʒ iij.

Ft. Sol. S.—A teaspoonful every two or three hours, at four or five years of age.

When the fever is very marked, nitrate of potash may be substituted, in carefully graduated doses, for the bicarbonate. Iron, particularly in the form of Basham's mixture, should be given as soon as the intensity of the fever has been mitigated. When the acute symptoms have subsided, the alkalies may be withdrawn, and quinia in combination with opium given—as:

325. ℞. Quiniæ sulph., gr. xxiv
Liq. morph. sulph., f. ʒ ij
Acid. sulph. dil., gtt. xxx
Curacoa, f. ʒ ij
Syrupi, f. ℥vj
Aquæ, q. s. ad f. ʒ iij. M.
Ft. Sol. S.—A teaspoonful every four hours at four or five years of age.

If the pain is very great, a small and mild blister may be used with advantage, or the joints may be bathed with the following:

326. ℞. Tinct. opii deod.,
Tinct. aconiti rad., āā f. ʒij
Lin. chloroformi, f. ʒ jss
Ol. olivæ, q. s. ad f. ℥iv. M,
Et. Ft. lin.

And then enveloped in wool and covered with oiled silk.

RUBEOLA (MEASLES).

DR. W. B. POWELL, OF LOUISIANA.

This author's treatment for ordinary cases of measles is as follows (*Medical and Surgical Reporter*, 1881):

327. ℞. Morphiæ sulph., gr. j
Liq. calcis,
Aquæ menth., āā f. ʒj. M.
S.—One to two teaspoonfuls, according to age, every hour, until relieved.

When dysenteric symptoms are present, he orders:

328. ℞. Pulv. opii, gr. ij
Bismuthi subnit., ℈j
Salicin., gr. vj. M.
Excipienti q. s. ut ft. pil. No. iv.
S.—One pill every two hours until bowels are quiet.

DR. WILLIAM M. POLK, OF NEW YORK.

This clinician *Med. and Surg. Reporter*, 1880), confines himself, as a rule, to meeting symptoms as they arise. It is a self-limiting disease, and one, which under ordinary circumstances, will get well. Of course, if the child have a laryngitis or a bronchitis, or a pneumonia, there is danger of a fatal termination, or at any rate, the prognosis is not so good. When such complications arise, the indications for treat-

ment are such as belong to them respectively. In a case of simple measles, put the child to bed, to insure warmth and protection; keep the bowels open, by some mild laxative, as castor oil, if the child will take it; then support it by nutritive food, such as is easily digested. Stimulants are indicated only by the condition of the pulse.

Where the pulse indicates heart failure, stimulants are to be used, otherwise not. Cough is very frequently an obstinate and a troublesome symptom, particularly in the earlier stages, and the cough has something characteristic about it. It is a dry, hacking, constant cough. The best treatment is local applications to the throat, because the cough is due entirely to the condition of the pharynx. The local application which insures the best results is some astringent wash, as tannin and glycerine or lime and glycerine. It is important to protect the child from exposure for some time after the eruption has subsided, because as long as there is that scurfiness of the skin which indicates desquamation, we may be sure that the mucous membrane is in a condition in which it will readily take on inflammation. He would keep the child indoors for at least four weeks from the time that the symptom made its appearance. As soon as the redness of the skin has subsided, and before desquamation is complete, there is no objection to the child taking a bath, in order to hasten desquamation as much as possible. If there be excessive irritation of the skin, as there often is, the local application of vaseline to the skin will have a tendency to check it. Oil the child from head to foot with ordinary vaseline.

DR. EDWARD HENOCH, OF BERLIN.

According to this author the disease merely requires, in the way of treatment, that the patient be kept in bed, (the room being kept warm), with light covering and a diet consisting of milk, soup and cool drinks as long as the high fever lasts. The room should merely be darkened to an extent agreeable to the child. He does not consider it advisable to isolate the patient from his brothers and sisters, on account of the slight danger and the certainty that the children will become affected sooner or later; he would only endeavor to secure very young or sick children against infection. No medicinal treatment is required in simple cases. If the cough is violent, we may order infusion of ipecac root, and perhaps a fly blister about an inch long over the trachea. If diarrhœa becomes profuse and the passages occur four to six times a

day, or even more frequently we may relieve it with inf. rad. ipecac and opium.

329. ℞. Inf. rad. ipecac, f.℥ iij
Mucil. gum arab..
Syr. simpl., āā f.℥ ij. ss
Tinct. opii, gtt. ij. iv. M.
S.—Dose, a dessertspoonful.

DR. Q. C. SMITH, OF TEXAS.

The treatment recommended by this practitioner in the *Nashville Journal of Medicine and Surgery*, 1881, is as follows: He reduces the temperature by tepid ammoniated baths—a tablespoonful of strong aquæ ammonia to each gallon of water—repeated as often as necessary to keep the temperature quite normal. The patient should remain in the bath from five to fifteen minutes, being well rubbed during the time. Just before being removed from the bath, one or two gallons—according to the intensity of the fever—of drinking-cold water is poured over the patient's head in a full stream, the patient quickly removed from the bath and wrapped in a dry blanket, and allowed to rest quietly for twenty or thirty minutes. Then, without removing the coverings, the patient is gently, but thoroughly embrocated over its whole person with camphorated vaseline, repeating the embrocation after each bath. Should the case be so light, that bathing is not deemed necessary, the camphorated vaseline embrocation is repeated three or four times a day. For internal medication, he uses:

330. ℞. Ammoniæ carb.,
Lithii bromid., āā ℥ ss
Liq. ammonii acetat., q. s. ad. f.℥ j. M.
S.—Teaspoonful in a little sweetened water, every one to three hours.

For the throat trouble, put a few grains of pure dry bisulphite of soda in the patient's mouth every few minutes; let it slowly dissolve and soak down the throat. When the patients are too large to handle in a bathing tub, he substitutes the sponge bath. He allows all the cold water, lemonade, milk and fruits (in small quantities at a time), that are desired.

PROFESSOR M. CHARTERIS, M. D., GLASGOW.

Measles is an essentially dangerous disease in infancy and in old age, though the danger is not in the disease so much as the sequelæ it leaves behind it.

All exposure to cold must be avoided. The room should be darkened and the patient kept in bed. Mild diet is advisable and a light diaphoretic mixture, as:

331. ℞. Vini ipecac.. f. ℥ iss
Syrupi, f. ℥ ss
Tinct. camphoræ comp., f. ℥ iij
Liquoris ammoniæ citratis, f. ℥ ss
Aquam, ad f. ℥ ij. M.

A teaspoonful every two hours.

When the cough is troublesome, an emetic often gives relief; and for the diarrhœa, cold compresses may be applied to the abdomen.

In "black measles," which is the hemorrhagic form of the disease, and a very fatal complaint, the system must be actively supported by wine or brandy, and the bronchi kept clean by stimulating expectorants.

HIRAM CORSON, M. D., PENNA.

This practitioner has practiced and advocated for many years the cooling treatment of measles. (*Medical and Surgical Reporter*, vol. xxvi.) He allows the child abundance of cool or cold water to drink, opens the windows to allow free ventilation, keeps the temperature of the apartment low, and if the heat of skin be excessive, sponges the body frequently with cool or tepid water. Internally, small doses of neutral salts to move the bowels are all that are generally required. Ice is given *ad libitum*, to allay thirst.

By this method he believes the dangerous complications are prevented, and a light eruption of the skin is secured.

DR. DAVIS, NEW YORK.

This writer (*Medical Record*, July, 1871,) considers the following formula one of the best preparations in the first stage of severe cases of measles:

332. ℞. Syrupi scillæ comp., f. ℥ iss
Vini antimonii, f. ℥ ss
Tinct. opii camphoratæ, f. ℥ ij
Tinct. veratri viridis, f. ℥ ij M.

One teaspoonful every three hours in water.

If the bowels are costive, they should be moved by a mild laxative.

When symptoms of pneumonia arise, they may be met with the following:

333. ℞. Liq. ammon. acetatis, f. ℥ iss
Syrupi ipecac., f. ℥ ss
Tinct. opii camphorat., f. ℥ j
Tinct. veratri viridis, f. ʒ j M.
Ten drops every two or three hours, for a child a year old.

The chest should be covered with fomentations.

NOTES ON REMEDIES.

Aconite, according to Bartholow, possesses the power of arresting the catarrhal pneumonia, which is one of the most serious complications of this disease.

Ammonii Acetatis Liquor. An excellent diaphoretic. Dr. AITKEN prescribes:

334. ℞. Liq. ammon. acetatis, f. ʒ j
Spiritûs ætheris nitrici dulcis, ♏ x–xx
Misturæ camphoræ, f. ℥ ss M.
To a child six years old every four or six hours.

Ammonii Carbonas. Mr. ERASMUS WILSON recommends that as soon as an attack of measles is suspected, the patient should have a mild purge, followed promptly by gr. v of carbonate of ammonia every two or three hours, in water, broth or milk.

Aqua. Cold water is given to any extent by recent practitioners. For the laryngitis which often develops, a sponge may be wrung out in very hot water and applied to the throat. For the rather common and sometimes very perilous epistaxis, water, as hot as it is possible to bear, containing a few grains of sulphate of zinc to the ounce, is used by Dr. JACCOUD, of Paris.

Nitricum Acidum, and other mineral acids, are useful in the hemorrhagic variety; gtt. xv to water Oij, may be given as a drink.

Potassii Bromidum is called for when there is sleeplessness and nervous excitability.

Potassii Chloras, in large doses, with stimulants, is recommended by Dr. ELLIS when the fever is of low type, with brown tongue and failing powers.

Quinine, according to Bartholow, is highly useful for the adynamia, and in large doses when catarrhal pneumonia comes on.

Veratrum Viride is used by Dr. DAVIS to reduce the febrile symptoms in severe cases (F 332.)

SCARLET FEVER.

PROPHYLAXIS OF SCARLET FEVER.

Of asserted prophylactics, *belladonna* easily stands at the head of the list. The testimony regarding it is very conflicting. On the one side, Prof. J. Lewis Smith believes, from the weight of evidence, that it is entirely inert. Dr. Andrew Wood, at Heriot's Hospital, Edinburgh, and Dr. Alley, at the Orphans' Asylum, Boston, experimented with it, administering it to one-half the children in their institutions, and, to use the words of the latter, "there was no manifest difference between the two classes as to susceptibility to the contagion;" and Thomas, in his exhaustive article in Ziemssen's Cyclopedia, speaks of belladonna as the "much-vaunted pseudo-prophylactic."

On the other hand, Rilliet and Barthez think it worthy a trial. Professors Meigs and Pepper think favorably of it. Dr. McKee, of South Carolina, thinks he used it with success. Dr. Porcher, after a review of four hundred volumes of literature on the subject, expresses himself in favor of it; and Professor Stillé, after reviewing the whole subject, says: "We feel bound to express the conviction that the virtues of belladonna, as a protection against scarlatina, are so far proven that it becomes the duty of practitioners to invoke its aid whenever the disease breaks out in a locality where there are persons liable to the contagion—particularly in boarding-schools, orphan asylums, and similar institutions, and among the families of the poor; whenever, in a word, it is difficult to place the healthy at a distance from the sick." Dr. Charles W. Earle, of Chicago, from an extended experience in that city, reached the conclusion that although its administration does not prevent children taking the disease, it mitigates the character of the attack.

The *bisulphites and hyposulphites of soda and magnesia* come next in importance. They may be given in solution of syrup and water, gr. $\frac{3}{4}$–j, for each year in the child's age, four times daily. Recent and strong testimony to their efficacy has been added by Dr. G. H. Harman. (*Ohio Medical and Surgical Journal*, April, 1878.)

Tonic doses of *tinctura ferri chloridi* during an epidemic have been found by Dr. J. A. Larrabee, of Kentucky, to exert a protecting influence. He believes that the action of the iron directly upon the

blood will prevent the scarlatinal poison from involving the system. (*Trans. of the Kentucky State Medical Society*, 1865.)

The *sulpho-carbolate of soda* has been urged on theoretical grounds by Drs. SAMSON and BRACKENRIDGE, to persons exposed to the poison of scarlet fever, and the latter relates several striking instances of what he believes to be its protective powers. He gives the salt in doses of gr. v–xxx, three or four times daily. Its use in this country has not answered expectations, and it has rather been found to depress the vital powers and tend to cause the patient to succumb.

The value of *inunction* as a prophylactic has been prominently set forth by Prof. JAMES B. WALKER, M. D., of Philadelphia. (*Med. and Surg. Reporter*, August 23, 1879). He believes that patients anointed several times daily with fat bacon, warm sweet oil, or similar fatty preparation, become, in a great degree, unable to propagate the infection, as the epidermic scales, which are generally conceded to spread the poison, are, by this means, prevented from escaping into the surrounding atmosphere.

For prophylactic purposes, Dr. JOHN C. PETERS, of New York, relies upon *sweet spirits of nitre*. (*Medical Gazette*, July, 1869.) It lessens fever and prevents, by its diuretic action, the occurrence of disease of the kidneys. It may also eliminate the poison so rapidly and completely that the system cannot become affected, nor the disease reach its full development.

Complete and continuous *isolation* is probably the only sure safeguard against infection.

PROF. J. LEWIS SMITH, M. D., NEW YORK.

In moderately severe and grave cases, the external treatment should be by cold applications to the head and sponging to the face and arms. This may be frequently repeated. Immersion in cold water or pouring it upon the person is questionable, as such a shock may increase the liability to chronic convulsions.

The itching of the skin should be relieved by *inunction*. The best substitute for this purpose is sweet oil or glycerine, to each ounce of which six or eight drops of carbolic acid are added. [Other authors commend, as still better, cocoa butter, *theobroma cacao*, which has a marked cooling effect.] The inunction should be made with linen or muslin, and the substance should be applied frequently to those parts of the surface which itch.

As an *internal remedy*, carbonate of ammonia is one of the best:

335. ℞. Ammonii carbonatis,
Ferri et ammonii citratis, āā ℥ss
Syrupi simplicis, f.℥iv. M.
A tablespoonful every thee hours, to a child three years old.

In the malignant forms of the disease, with the temperature at 105°, drowsiness, delirium and restlessness, the sulphate of quinine, in full doses, is more useful than any other remedy; gr. iij–v, thrice daily, to a child of five years. If the stomach will not retain it, give doses of gr. xij by enema. A hot mustard-bath or foot-bath develops the rash, and allays nervous excitement; it is especially indicated if the convulsions occur attended by disappearance of the eruption.

For the *pharyngitis*, a slice of salt pork, cut thin, and stitched to a single thickness of muslin, should be applied to the throat. It should pass from ear to ear. This application should be continued throughout the fever, being left off for a day or two, if too much soreness is induced. It is a gentle and effectual counter-irritant. Local applications to the fauces are still more important:

336. ℞. Acidi carbolici, gtt. xv–xxx
Potassii chloratis, ℈iij
Glycerinæ,
Aquæ, āā f. ℥iij. M.
For a gargle.

337. ℞. Acidi carbolici, gtt. v
Liquoris ferri subsulphatis, f. ℥ij
Glycerinæ, f. ℥j. M.
To be applied with a camel's-hair pencil, three or four times daily.

Yeast is useful in many of these cases, given in doses of f.℥ss–f.℥j, several times a day. No drink should be allowed for several minutes after swallowing it.

HIRAM CORSON, M. D., NORRISTOWN, PA.

This writer has, for several years, been a prominent champion of the *ice* and *cold-water* treatment of scarlatina, advocated, early in this century, by Dr. James Currie, of London, and later by Professor Trousseau, of Paris.

He applies the ice in moderate quantities, tied up in two small pieces of bladder, and one placed on each side of the neck, over the parotid gland, and retained by a strip of muslin brought under the jaw and tied

on the top of the head, not around the neck. If no bladder nor gutta-percha bag can be procured, fold a strip of old muslin twice, so that, when thus folded, it shall be three inches wide, and long enough to extend from the bottom of one ear, under the jaw, to the bottom of the other. To each end of this, sew a strip of muslin of the same width, and a foot or more in length, by which, when applied, it may be tied to the top of the head. Have a line of stitches run crosswise through the middle of the fold; there will then be a pocket for ice on each side of the neck. For the first application, wet this with cold water alone, and tie it on; after wetting it a few times, slip into the pouch, on each side of the neck, three or four large lumps of ice, as large as a shellbark, and keep them well stocked with ice. Give the ice freely inside, apply it over the nose, and sponge the body and limbs freely with cool or cold water.

STILES KENNEDY, M. D., MICHIGAN.

According to this writer, two medicines only have gained much reputation for mitigating or subduing the symptoms of fever in this disease, or the disease itself, and the profession is about equally divided as to their respective merits. One is the *chlorine mixture*, which, for ready use, may be prepared about as follows:

338. ℞. Potassii chloratis, ʒj
Acidi muriatici,
Aquæ, āā f. ℥j. M.

From two to eight drops of this to a tablespoonful of water, may be given every two hours. For children over eight years of age, a solution made of two drachms of the mixture and a pint of water, is strong enough to give, in tablespoonful doses. It is generally prepared sweetened with simple syrup, but, at best, it is an unpleasant dose to many children, and often makes them complain of burning in their throats.

The other medicine alluded to is the *liquor ammonii acetatis* of the Pharmacopœia. Probably no anti-febrile mixture has stood the test of the experience of the profession for so long a time, with so much satisfaction, as this, not in scarlet fever particularly, but in all febrile diseases; and our author does not remember ever to have heard it complained of when the vital powers begin to flag. An excess of carbonate of ammonia may be added, in the quantity of five or ten grains to the ounce:

339. ℞. Ammonii carbonatis, ℈ij–iv
Liquoris ammoniæ acetatis, f.℥iijss
Syrupi simplicis, f.℥ss. M.

Give from half to a whole tablespoonful, in a little water, every one or two hours, according to the age of the patient and the urgency of the symptoms.

FREDERICK T. ROBERTS, M. D.

In reference to the treatment of special symptoms, this author gives the following recommendations:

The *throat symptoms* are best relieved by sucking ice or inhaling steam. A few leeches about the angle of the jaw are occasionally advisable. For ulceration and gangrene, antiseptic gargles are demanded; or, if the patient cannot gargle, inhalations or sprays. The antiseptic may be either carbolic acid, creasote, chlorate of potash, permanganate of potash, or sulphurous acid.

The nostrils, if blocked up, must be washed out occasionally with a weak disinfectant solution. Ulcerations may be touched with a solution of nitrate of silver. A weak solution of chlorate of potash may be allowed freely as a drink. But in a large number of cases, the only hope of recovery lies in the *free support* of the patient by food and stimulants. As often the child cannot or will not swallow, and the necessary materials cannot be introduced into the stomach, they must be administed by enemata. At the same time, tincture of iron, in full doses, ♏xx–xl, every three or four hours, with quinine or mineral acids, is called for.

THE ALBUMINURIA AND DROPSY.

Dr. W. H. Thompson, of New York, considers that with reference to the nephritic complication, no case is to be despaired of in its acute stage, for recoveries from apparently the most desperate circumstances (as in cases in which urine has continued suppressed for seven and nine days), have taken place. The measures to be adopted are oiling the skin, the hot-water pack, dry cupping, counter-irritation by means of spoons heated in hot water and applied momentarily over the kidneys, the free use of the infusion of digitalis, etc., after diaphoresis, large injections of warm water. The injections are preferable to purgatives, because the action of the warm water favors the discharge of water from the bladder. A quart may be perhaps used as many as six times a day, and passing the urine may come only with the last injection. The infusion of digitalis should be given to children in very nearly as large doses as are required for adults.

When purgatives are used, the usual one is *elaterium:*

340. ℞. Pulveris elaterii, gr. $\frac{1}{8}$
Pulv. scammon. comp., gr. v
Potassii bitartratis, ʒss. M.
For a child of ten. (E. Ellis.)

Elaterium is objectionable on account of its tendency to excite vomiting, unless carefully combined.

Digitalis is the most approved diuretic. It may be given in the fresh infusion, or as follows:

341. ℞. Tinct. digitalis, ♏iij
Tinct. hyoscyam., ♏v
Syr. aurantii, f. ʒss
Aquæ camphoræ, f. ℥iv. M.
This amount for a five-year-old child, every six hours.

342. ℞. Infusi digitalis, ʒss
Potassii acetatis, gr. v
Spiritûs juniper. comp., ♏x
Decocti scoparii, ad f. ℥ss. M.
For a child five years old every six hours. (Dr. Edward Ellis.)

The use of *iron* in as large doses as the system can bear without producing headache or nausea is recommended by Prof. M. Charteris:

343. ℞. Tincturæ ferri chloridi, f. ʒij
Infusi digitalis, f. ℥vij. M.
A dessertspoonful thrice daily.

The diet should be generous, with plenty of milk, and a uniform temperature insisted upon.

When convulsions supervene, Dr. S. Wilks, of Guy's Hospital, and other leading English authorities, do not hesitate to practice *venesection* to f. ℥iij–vj. In many instances, where every other means failed, patients have recovered by the judicious employment of the lancet.

DR. EDWARD HENOCH, OF BERLIN.

This author considers that no drugs are required in normal cases which are free from complications. The child should be isolated as much as possible from his brothers and sisters, or the latter be removed from the house. Pure air and cool temperature should be earnestly recommended; the windows should therefore be repeatedly opened, at least in the adjoining room, the child covered lightly, and the room darkened only when photophobia is present. Cool drinks, milk, soup,

pigeon or chicken broth should constitute the diet during fever days. An enema or a mild purgative every other day—for example, a teaspoonful of magnesia or a laxative effervescent powder; a wineglassful of bitter water, etc., may be given in constipation. If the fever continues, high and malignant symptoms develop, the head should be covered with an ice-bag, a large dose of quinine or salicylate of soda given between four and six o'clock p. m., and the child placed in a lukewarm bath. He decidedly opposes cooler baths, because in scarlatina, which presents a tendency to heart failure, cold may produce an unexpected rapid collapse more than in any other affection. But he strongly recommends washing the entire body every three hours with a sponge dipped in cool water and vinegar. If something must be prescribed, hydrochloric acid is the most suitable.

344.	℞. Acid. hydrochloric.,	gtt. $\frac{1}{6}$–j	
	Aq. destil.,	f. ℥ iij	
	Gum. arab.,	gr. xv	
	Syrup,	f. ℥v.	M.

S.—Teaspoonful every two hours.

In truly malignant cases, however, antipyretic treatment proves utterly useless. He has never seen any effects from large doses of quinine, and he considers salicylate of soda in such cases a dangerous remedy. If we can sustain the action of the heart by the use of powerful stimulants until the organism has overcome the other severe consequences of the infection, we may still hope for a favorable termination unless grave complications are present. Among stimulants he gives the first place to alcohol (wine, brandy), coffee in large doses, and camphor. When deglutition is impaired by swelling of the pharynx, a nutritive enema of pepton should be given twice a day, or a small cup of bouillon with yolk of egg and a spoonful of wine, and a hypodermic injection made every three hours of sulphuric ether (a hypodermic-syringeful), or camphor, either in the form of camphorated oil, or better still, as a solution of camphor in alcohol and water. If the malignant form of scarlatina runs its course without any dangerous symptoms of heart failure, as may happen for a number of days, he would advise the constant employment of decoct. cort. chinæ (5.0–8.0:120) with aq. chlori (15.0) which may be changed for tincture of valerian if the pulse is sinking. Disinfection of the buccal, pharyngeal and nasal cavities, should be made by injection of these

parts every two to three hours with a solution (two per cent.) of carbolic acid, or with permanganate of potash (0.5:100). He has also had success in injecting the nose with sulphate of zinc (1.0:100.0) or brushing it with a five per cent. solution of chloride of zinc. In synovitis the painful or swollen joints should be wrapped in cotton. Lukewarm baths should be taken as soon as desquamation begins. Patients should not be allowed in the open air before the fourth week.

DR. P. HEUSER, OF GERMANY.

This physician writes to the *Deutsche Medizinal Zeitung*, 16, 1882, that he has nearly always achieved a rapid cure in scarlatina-dropsy, and even when internal remedies could be no longer administered, by the following method:

He daily rubs into the skin in the region of the kidneys a mixture of one part of croton oil, with two parts of ol. papaveris. Mostly one such innunction suffices to cause within a few hours the appearance of a severe eruption of the skin, and simultaneously a great improvement in the condition of the patient, and amelioration of all the dangerous symptoms. The change for the better at once sets in with the commencement of the artificial exanthem. If the symptoms again become aggravated, the procedure is repeated. Internally H. administers spirit. mindereri in small doses.

DR. JOHN W. HAYWOOD, OF LONDON.

This author describes (*Lancet*, 1883), two cases of malignant (hemorrhagic) scarlatina that resisted all treatment and seemed doomed. The cuticle was removed from around the throat by a cantharides blister, and to the exposed cutis a wet compress sprinkled with *crotalus* was applied, and renewed, at first every half hour and then every three hours; also a dose, dissolved in a teaspoonful of water, was dropped on the tongue every half hour. The symptoms all began to improve at once, and the author thus concludes: "The above notes of these two interesting cases were written at the time, and have been preserved and withheld from publication, in order to test the drug in similar cases before publishing them. This has now been done over and over again, until the writer is thoroughly convinced that the above facts were no mere coincidences.

DR. KEITH NORMAN MACDONALD, OF SCOTLAND.

In the *British Medical Journal* (1883), Dr. KEITH NORMAN MACDONALD, after denying the prevalent opinion, that no reliance can be placed on any drug in cases of scarlatina, does not hesitate in affirming that, when properly applied, both locally and internally, *sulphurous acid* is by far the most efficacious remedy we possess. He continues: "I have had several opportunities of testing its efficacy in some of the worst cases I have ever seen, during the epidemic which has been rife in this town (Cupar Fife) for the last two months, and I am bound to say that, of all remedial measures in this disease, it is, in my opinion, the most reliable. My treatment is as follows: The moment the throat begins to become affected, I administer to a child, say of about six years of age, ten minims of the sulphurous acid, with a small quantity of glycerine in water, every two hours, and I direct the sulphurous acid spray to be applied every three hours to the fauces for a few minutes at a time, by using the pure acid in severe cases, or equal parts of the acid and water, according to the severity of the case. Sulphur should also be burned in the sick chamber half a dozen times a day, by placing flour of sulphur upon a red-hot cinder, and diffusing the sulphurous acid vapor through the room, until the atmosphere begins to become unpleasant to breathe.

"In the worst cases, where medicine cannot be swallowed, this and the spray must be entirely relied upon; and the dark shades which collect upon the teeth and lips should be frequently laved with a solution of the liquor potass. permanganatis of the strength of about one drachm to six ounces of water, some of which should be swallowed, if possible.

"In cases presenting a diphtheritic character, the tincture of perchloride of iron should be administered in rather large doses in a separate mixture with chlorate of potash, and equal parts of the same with glycerine should be applied locally, with a camel's hair brush, several times in a day; but, as in the majority of cases among children it is next to impossible to use a local application more than once, the spray and permanganate solution will then prove of great service.

"As to other remedies recommended by various authors, ammonia is nasty, and connot be taken well by children; carbolic acid has the same fault, and cannot be applied properly. Gargles are also useless in children, because they seldom reach the diseased surfaces, and warm

baths and wet sheet packing are dangerous, because they are never carried out properly in private practice. The hypodermic injection of pilocarpine is a remedy that may give good results hereafter, but I have had no experience of its use."

DR. JOHN W. AYLER, OF WEST VIRGINIA.

This physician states in the *Medical and Surgical Reporter*, 1883, that he has had excellent results from a method of treatment that he fails to find reported in any text book. When called to a patient, he at once orders chlorate of potash and carbolic acid internally, with inunction of the whole surface of the body. The treatment is pushed throughout the whole course of the disease.

DR. PAUL GERNE, OF FRANCE.

This author says (*Le Concours Médical*, 1882,) that if you desire to use belladonna, the following is a good formula:

345.	℞.	Ext. belladonna,	gr.ii¼	
		Distilled water,	f. ʒ viiss	
		Alcohol, rectified,	♏xv.	M.

Of this mixture, give as many drops, morning and evening, as there are years in the patient's age.

In regular and normal forms of the disease the treatment should be purely hygienic; the patient must be kept in bed, in a room having a temperature of from 64° to 68° F.

The patient should not be surfeited with warm drinks; he may have reasonable quantities of lemonade, to which wine can be added, when there are symptoms of weakness.

Until the period of desquamation is reached, the food should consist of broth, unless otherwise speedily indicated.

The infectious nature of the disease warrants the use, as recommended by Scott, of an aqueous solution of sulpho-phenate of soda, in doses of grs. viiss–xv. In irregular forms, the predominating symptoms, will, of course, indicate the particular measures that should be adopted. The hyperthermia in those ataxic forms rapidly accompanied by serious nervous, comatose, convulsive, or dyspnœic symptoms, is successfully checked by cold lotions and affusions, and in very severe cases, cold baths may even be given.

As an anti-thermic remedy, we use sulphate of quinine; but salicy-

late of soda should never be displayed, because it might superinduce nephritis, which is always imminent, or aggravate it if already present.

In syncopal forms, wine, alcohol, cinchona and digitalis, are to be exhibited.

In gastro-intestinal forms (complicated from the start by incoercible vomiting and profuse and persistent diarrhœa), opiates are to be used, also Seltzer water, and ice in small pieces be frequently given by the mouth.

DR. LERVIS, OF FRANCE.

Dr. LERVIS (*Le Progres Medical*, 1882,) recommends digitalis to limit the acceleration of the pulse in scarlatina, and also as a prophylactic against renal complications. The infusion of digitalis should be given as soon as possible after the debut of the malady, and continued up to the third week. The whole body should be anointed with oil twice daily, until desquamation is completed. To prevent the development of diphtheritic angina, he recommends the following potion:

346. ℞. Potass. chlorat., ℥j
Tinct. ferri perchloridi, f. ℥ij
Glycerinæ, f. ℥j
Aquæ destil., f. ℥viij. M.
S.—A teaspoonful every half hour.

DR. JAMES Y. SHEARER, OF PENNSYLVANIA.

This physician has had most excellent results from the cold treatment of this disease which he has practiced for twenty years. He sponges the whole body with cold water and applies ice to the throat, having a piece of muslin between the skin and the ice. He is careful to apply the ice to the inflamed cervical glands.

DR. A. WORTHINGTON, OF CANADA.

This author (*Canada Lancet*, 1881,) reports most satisfactory results from the "*Cold Water*" treatment. His plan is to pour ice-cold water over the patient's head and neck for a couple of hours at a time, to sponge the entire body frequently, and to keep cloths wrung out of cold water constantly around the neck. He uses no medicine, except to keep the bowels open. He, of course, always meets with opposition from the parents, but he persists, and his reported success is very great.

DR. LEICHTENSTERN.

The means upon which this author relies (*Archivio di Patologia Infantile*, 1883), most extensively is the cold bath, administered from the time that the exanthema is well developed. He usually immerses the child for from ten to fifteen minutes. The contra-indications for its use are:

1. Cardiac collapse or a tendency thereto, with a cold and cyanotic skin.

2. Laryngeal stenosis, when diphtheria complicates the disease.

3. Inflammatory swelling and infiltration of the cellular tissue of the neck, with venous obstruction.

4. Possible impending pharyngeal or nasal hemorrhages from diphtheritic erosion of the large vessels; absolute quiet being imperative.

6. The severe form of poly-articular synovitis and scarlatinous tendenitis, in which the slightest movements are painful. Less reliable, in the author's hands as an antipyretic, is quinine, which is not without danger in children from the possibility of *quinine collapse*.

If given at all, it should be in small and rather frequent doses. Of salicylic acid he speaks with more confidence as an antipyretic. He usually gives it in the form of the soda salt, in seven grain doses, at intervals of half an hour, until the fever is controlled. In some cases it was effective when the cold bath failed. He thinks its supposed unfavorable effect upon the heart is imaginary. For alimentation he prescribes milk, eggs, gelatine and nutritious soups. Stimulation is often necessary, and for this purpose red wine, cognac or champagne may be given. Massage and counter-irritation, in the form of blisters, are also beneficial at times.

DR. WILLIAM B. ATKINSON, OF PHILADELPHIA.

According to this teacher (*Medical and Surgical Reporter* 1880), in every case of this disease, whether mild or malignant, much depends upon the care and attention of those who are to act as nurses. The efforts of the physician must be directed to the relief of urgent symptoms, as intense febrile action, the prevention of debility, and of complications.

The patient should be kept in bed in a well-ventilated room, with especial care to avoid the slightest exposure to a draught. In ordinary cases the medicinal treatment will be limited to the meeting of indica-

tions as they arise; the patient should be allowed cool, acidulated drinks, and plain, easily digested food. Sponging the whole surface with tepid wated is in many cases very comforting. The same effect is produced by the process of inunction. The usual domestic remedy is pure lard, or the fat of bacon. Preferable is the unguentum petrolei or "cosmoline," and where the itching is very annoying, it is better to employ the carbolated preparation, which contains three per cent. of carbolic acid. The inunction should be repeated at intervals, as circumstances demand, to relieve the dryness and mitigate the great heat of the skin.

The physician must constantly keep in view the tendency to depression, and remember that stimulants are to be employed at the earliest indication of debility. Preparations containing chlorine in some form have long been favorites with the profession, under the belief that this article acts to destroy the poison of the disease. WATSON, in his Principles and Practice of Physic, gives this formula: "Put eight grains of the chlorate of potassa into a pint bottle, and pour upon them one drachm of strong hydrochloric acid. Keep the mouth of the bottle closed until the violent action has ceased; then add an ounce of water, and shake the mixture well; then add another ounce of water, and again agitate well; and so on, until the bottle is full. The chlorate should be pulverized, and in cold weather the bottle should first be warmed. A tablespoonful or two of this mixture, according to the age of the patient, may be given for a dose, frequently. An adult may take the whole pint in a day."

At present, many practitioners employ a formula containing the chlorate of potassa and the tincture of chloride of iron, regarding this combination as of great value, also, to meet the throat symptoms. When needed, the throat may also be gargled with this combination in honey and water. For the great restlessness the bromide of potassium, or of sodium, will be found valuable in moderate doses, repeated at intervals of an hour or two, until quiet is produced.

Many authorities agree that in consideration of the poisoned condition of the blood, small doses of carbonate of ammonia should be given every two or three hours.

J. LEWIS SMITH gives the following:

347. ℞. Ammon. carb., Ferri et ammon. citrat., āā ℥ss
Syrup. simplic., f. ℥iv. M

One or two tablespoonfuls every two or three hours.

Some prefer the liquor ammoniæ acetatis, and this, in all cases, should be employed with an excess of the ammonia.

Should the sypmtoms indicate exhaustion, with the decline of the eruption, quinine should be employed, as also the carbonate of ammonia.

In his own experience, no single remedy has given such good and such constant results as *digitalis*. About the year 1858 the late Dr. Lewis P. Gebhard read a paper before one of our medical societies, very strongly advocating the use of this article in all the forms of this disease, and claiming for it the character of a specific. His method was to put one drachm of the powdered leaves of digitalis to twelve tablespoonfuls of boiling water, and when the infusion had cooled, to give it in teaspoonful doses every hour or two, according to the age of the child and the gravity of the symptoms. Since that time Dr. Atkinson has used it in a large number of cases and with the best results. He generally orders it prepared in the same way, and directs the nurse to give it in teaspoonful doses every hour or two, until the pulse and temperature are positively reduced; then to lengthen the interval, so as to maintain the effect thus obtained. He believes that he has almost invariably observed the symptoms to moderate within from twelve to twenty-four hours, and he feels confident that while he has never in a single instance known any of the so-called poisonous effects of the remedy to follow, he has also failed to see the usual dangerous sequela in many cases, and only slightly in any. He has never seen anything to warrant a belief in its usually dreaded "*cumulative effect.*"

DR. W. VAWDREY LUSH, OF ENGLAND.

After ten years' experience, added to fifteen of Dr. Thompson's, this author speaks highly, in the *Lancet*, 1880, of the *warm bath* treatment of scarlatina. At first, he orders the patient to have three warm baths daily, to be kept in from three to five minutes, rapidly dried, wrapped in a blanket, and returned to bed. As the disease subsides, he reduces the baths to two or only one daily. He finds that it brings out the rash, reduces the temperature and soothes the patient.

DR. J. MURPHY, OF ILLINOIS.

Dr. J. Murphy states, in the Peoria *Medical Monthly*, 1880, that he has found the following formula of great benefit in the treatment of scarlet fever:

348. ℞. Acid. salicylis. ʒ ij
Mucilag. acaciæ,
Aquæ rosæ, āā ℥ iss
Syr. tolu, ℥ j. M.

Of this mixture one or two teaspoonfuls, according to the age of the child, should be given every two hours until a favorable impression has been made on the throat and on the general symptoms. When this has been accomplished the intervals of administering the medicine should be extended to four or five hours, varying the periods as the changing symptoms of the disease may indicate the propriety or necessity of. During the existence of the acute symptoms, the use of the acid should not be permitted to interfere with the sustaining treatment, which is so essential in this disease. Nor should its continued use after the acute symptoms have subsided prevent the adoption of the tonic treatment so positively required during the period of convalescence.

M. ARCHAMBAULT, OF PARIS.

In the *Medical Press and Circular*, 1880, this great teacher says that there is a certain class of infantile diseases for which it is not at all necessary that the physician should display his skill. Scarlatina is one of these. Put the patient to bed in a well-ventilated chamber, but the windows should not be opened. The temperature of the chamber should not exceed 64°. When the fever falls the temperature may be raised a little, because the patients have tendency to chills. The covering should be no heavier than in health. How long would you leave a patient in bed? Some say that he might get up as soon as the fever fell; others, on the contrary, exact a month or six weeks. Leave him a long while in bed, about three weeks. The statistics of an English doctor, comprising six or seven hundred cases of scarlatina, show that nephritis appeared oftenest from the fourteenth to the eighteeth or twenty-second day. If, then, nephritis is due to cold, it will be well to oblige the patients to keep their beds. They might sit up in bed, but care should be taken to put a kerchief around the neck, for secondary sore throats are grave. It would be well also to recommend mittens on the wrists, the carpal articulations being the most subject to the rheumatism which is frequent after this disease. The patients should not go out before the thirty-fifth or fortieth day; but that will depend again on the gravity of the disease. BARTHEZ has said that he did not know of any case of anasarca after scarlatina since he forced his

patients to keep their bed during five or six weeks. Hot drinks should not be given unless the eruption does not come out properly. Refreshing drinks, such as lemonade, gooseberry wine, etc., are preferable. To aid the eruption he has given the acetate of ammonia. If the patient is constipated, a little rhubarb or castor oil will suffice. If the nights are restless, a little bromide of potassium is of great benefit. The mouth must be washed often, but for the throat, caustics are seldom necessary. Chlorate of potash, or alum gargles will be sufficient. If the patient is too young to gargle, one or two grams of chlorate of potash mixed with five or six grams of white powdered sugar may be given. One might order a bath if the fever were very high and the eruption abundant, but in ordinary cases it would be better to dispense with it. This practice is much used in England; it is thought hazardous in France. Sometimes the itching is very great. Some German doctors conceived the idea of rubbing the children with fresh lard, but to this procedure, which is not very clean, he prefers the English method, which is a mixture of glycerine and cold cream. As regards nourishment, it is evident when the fever is high a light diet should be prescribed; when the fever abates, a stronger nourishment might be administered, but with caution.

Such is the treatment that will suffice in scarlatina; it is simple, and will not cover you with glory, but it will cure your patients, and will prevent, in the majority of cases, complications. Do not neglect, above all, hygienic precautions, for there is not a case of scarlatina that ought to be neglected.

DR. BEDFORD BROWN, OF VIRGINIA.

This author enunciated his views before the last meeting of the *American Medical Association*, which may be thus summarized.

There are two safe and efficient means always at hand to control high temperature. One is the warm bath, either by the immersion of the body in water at a temperature of 80°, or the wet pack at the same degree, repeated every three or four hours until copious perspiration follows.

The patient is permitted to repose in the wet sheet, enveloped in blankets, the entire body being for hours subjected to free perspiration, and of course undergoing the combined antipyretic and eliminative processes. In connection with those measures the sedative treatment is

also practiced. For this purpose I have found the following formula well adopted:

349. ℞.	Infus. digitalis,	f. ℥ ij	
	Tinct. aconit. rad.,	gtt. xvj	
	Spts. ammon. arom.,	f. ʒ iij	
	Spts. nit. eth.,	f. ℥ j.	M.

S.—A teaspoonful in water every two hours to a child of five years.

This method of treatment in my experience rarely fails to induce a marked change for the better in the temperature and pulse.

In this manner we accomplish two leading objects simultaneously. My rule has been, in those cases attended with excessive inflammation and swelling of the structures of the throat and neck, a very high grade of temperature, and frequent pulse, to reduce the pulse rate and temperature by the combined agency of digitalis and aconite, as rapidly and steadily as is consistent with safety, down to a standard perfectly compatible with life. This peculiar combination I regard as particularly effective in this class of cases, and whatever dangerous or ill effect the one may exert is counteracted by the other.

In this way many cases of the severe form of what is termed the anginose variety with decided malignant tendencies may be robbed in great measure of malignancy of type, and converted into more simple and manageable forms. With a slow, strong pulse, and a moderately low temperature, the chances for life become at once greatly improved. The combined influence of the sedative and eliminative treatment over the extensive and dangerous swelling of the structures of the throat, usually diminishes the effusion and inflammation permanently, and in proportion to the abatement of fever. Long and continued experience in the use of eliminative measures through the skin and kidneys, principally the former, only tends to increase my high estimation of the great value of this means of treatment in all the more severe forms of scarlatina.

In all grave forms of the affection the skin is particularly dry, and devoid of perspiration. My custom has been, in all of this class of cases, to maintain a free and continuous action of the skin by means of the tepid bath and the wet pack, throughout the course of the attack.

For the purpose of illustrating what may be accomplished in the conversion of a very grave and malignant type of this disease into a very simple and benign form, I will cite the following case: "A little boy of six years, in very robust health, in 24 hours after the first indications

of scarlatina, became alarmingly ill with malignant symptoms. The eruption was imperfect in development; the pulse so frequent that it could not be estimated. There was great stupor. The temperature ranged at about 106°; the general prostration was correspondingly great. The child was first given a general bath at 80°, then enveloped in a wet sheet at the same temperatnre, and over this a dry blanket; then put to bed and permitted to luxuriate in a free and delightful perspiration for many hours. When the temperature increased, the same process was resumed. Then he was given a drachm of infusion of digitalis, one drop of the tincture of aconite root and ten drops of sweet spirits of nitre, every two hours, until the pulse and temperature were reduced to near the normal standard. Then the consciousness and vital powers of the little patient returned, and the type of the case in another 24 hours was changed from a very dangerous to a very simple one.

Treatment of the True Adynamic Type of Scarlatina. We occasionally meet with a class of cases presenting, from the incipiency, symptoms of adynamia. The eruption is always of a dark or mahogany color, and not abundant; the pulse is exceedingly frequent and feeble. The urine is dark, very scanty, and often albuminous. There is excessive stupor and prostration of the vital powers, the tongue a dark red and very dry. We all appreciate the gravity of these cases. The treatment which I have found most efficient in this type of disease, consists of the wet pack saturated in water at 80°, with a considerable proportion of alcohol combined, used sufficiently often to maintain a moderate perspiration. The following formula I have found the most useful of all of which I have made trial:

350.	℞.	Sodæ sulph. carbolat.,	℥ iss
		Sodæ hyposulphite,	℥ j
		Aqua,	℥iss
		Infus. digitalis,	℥ iss
		Tinct. nux vom.,	gtts. xij.

Of this two teaspoonfuls are to be given to a child of five years every two hours. Alternately with this, a teaspoonful of brandy and elix. of calisaya are to be administered.

In these cases the temperature rarely reaches a very high grade. The temperature and circulation are both unequally distributed. The extremities are usually cool and livid, the body hot. The action of the

heart is excessively feeble and frequent, often reaching a rate of 200 per minute in very young children. The poisoned condition of the blood renders the dangers of thrombosis of the heart, lungs and brain imminent. This condition is particularly encouraged because of the inability of the heart to maintain an equable circulation. Hence in these cases we need especially a remedy which will both slow and strengthen the action of the organ.

The Treatment of the Malignant Type Due to Early Renal Complications.—In a certain proportion of cases the malignancy of type seems to be due to early renal complications. We observe in these cases the early development of malignant features very similar to those manifested in cases of serious nephritis from more simple causes. Thus there is always tendency to coma. The urine is very scanty, high colored, acid in reaction, and albuminous. The temperature is high, and the pulse-rate very frequent. There may be but moderate adenitis, yet the case presents all the indications of gravity and danger.

In all cases of importance I believe it to be our duty to examine the state of the urine throughout the course daily.

Doubtless many cases have assumed the malignant type and ended fatally, solely because of the development of nephritis. In the treatment of these cases all of our appliances, consisting of the warm bath, the wet pack, and if necessary, the hot air bath, for the purpose of inducing copious elimination through the skin should be brought to bear on the patient frequently.

Prolonged observation of scarlatina convinces me that our attention is directed usually to renal complication at too late a period of the case, and that treatment is often delayed too long. In cases of nephritic complication, with high grade of fever and frequent pulse, I have found a combination of alkaline diuretics with sedatives of infinite service. The alkaline diuretics can not only be given freely in these cases without harm, but with benefit. In my experience it is best to maintain the urine in a perfectly neutral and bland state, so that its acids cannot act as irritants and thereby aggravate the existing inflammation. I have found the following formula a valuable one under these circumstances:

351. ℞. Liq. potass. citratis, f. ℥iss
Potass. bicarb., ʒ ij
Spts. nit. ether, ʒ iij
Tinct. aconit. rad., gtt. xij
Infus. digitalis, f. ℥j. M.

A dessertspoonful every 2 or 3 hours to a child of 5 years.

This combination of therapeutic agents usually exerts a most favorable influence over the engorged and inflamed kidneys. Their functions are always improved and generally restored. At the same time the action of the heart is slowed and strengthened; the abnormal temperature is reduced to a point of safety and the nervous centres relieved.

In connection with this method the patient is fed liberally on skimmed milk.

I do not remember to have seen a case of organic renal disease or dropsy following scarlatina in an exclusively nursing infant. Whether this is due to the exclusive milk diet, to the exclusion of animal food, or to the better care or protection from cold, is not known.

The Treatment of Protracted Adenitis, followed by Abscesses and Symptoms of Pyæmia.—In the severe anginose form of the disease, protracted adenitis, followed by a long line of abscesses in different portions of the system and symptoms of pyæmia, occasionally occurs. The fever is usually hectic in character. The temperature rises and remits at certain periods of the day, followed occasionally, but not always, by exhausting perspirations. The tongue is usually red and dry. There is complete anorexia; symptoms of adynamia are always present. The process of emaciation is progressive. These morbid processes may continue in operation for many weeks, and either end in death or restoration.

I have found in this particular affection no combination of remedies so effective as the tinct. of the chloride of iron, arsenic and digitalis. I usually give to a child of five years, five drops of the iron, one-third of a drop of Fowler's solution of arsenic and three drops of the tinct. of digitalis every four hours. This method of therapeusis should be maintained until the pyæmic tendency has been arrested. In this place I regard the arsenic as an important ingredient.

When the tendency to exhausting perspiration is decided, I usually combine the tinct. of belladonna.

Treatment of the Convulsions of Malignant Scarlatina.—A history of the treatment of scarlatina would be very incomplete without allusion to the subject of convulsions. Usually in these cases renal complications are present, and must receive a share of our treatment. The pulse in these cases is usually very frequent and the temperature high. The entire voluntary, reflex, and ganglionic nervous centres are

all profoundly affected by the infectious poison. To relieve the circulation of uræmic poisoning, which is generally present, and to prevent that irreparable damage to the brain which results from the capillary thrombosis and extravasation of blood that may arise from the violent and unequal action of the heart, our remedial agents should be addressed to the eliminative organs, the reflex nervous system, and the general circulation. Elimination through the skin and kidneys, as heretofore advised, should be assiduously practised. Chloral hydrate, to control the over-excited reflex centres, and veratrum viride combined, have been more efficient in my experience as a means of reducing cardiac action and regulating the unbalanced circulation, than any other agents. Five grains of the chloral and one or two drops of the tinct. veratrum act well after the functions of the skin have been restored. These remedies should be repeated every two hours to a child of five or six years until the object has been attained. In dangerous cases of this kind I regard the use of the veratrum as an important addition to the treatment. In my own hands, when combined with chloral, it has been more prompt, energetic, and decided in repressing the convulsive tendency than any other therapeutic agent.

Treatment of Scarlatinous Pharyngitis.—After a trial of the various local remedies devised by myself and recommended by others, I have reached the conclusion that a combination of astringent and antiseptic agents, composed of bromo-chloralum ℥j, the antiseptic vegetable compound known as listerine ℥ij, pulverized alum ℥ij, carbolic acid gtt. x, diluted with rose water ℥iv, either used by means of gargling, the atomizer, or brush to the inflamed surface, constitutes the most valuable of all the local applications. I feel sure that the absorption of the antiseptic properties through the mucous surface is in such quantities as to exert decided effect. Two or three drops of carbolic acid, when applied to the cervix of the uterus, will be tasted by the patient almost instantaneously.

I have faith, also, in the value of antiseptic agents applied to the cutaneous surface. When carbolic acid, salicylic acid and ointment of rose water in combination are applied to the skin, they act not only as an emollient, allaying inflammation and irritation, but the antiseptic agents being spread over a vast extent of surface, are largely absorbed, and exert their peculiar influence in correcting the septic processes going on within the system, thus saving the digestive organs the ill effects of their influence.

In the selection of nourishment, we should be influenced both by the condition of the digestive organs and the renal functions. In cases of seriously impaired digestion, irritable stomach, scanty, albuminous and acid urine, the best method of administering nourishment, in my experience, is in the form of skimmed milk, containing a small amount of bicarbonate of soda in solution, and combined with one-third lithia water. This may be continued so long as these symptoms exist.

In all serious cases preference is given to the alkaline lithiated milk as a constant diet. The milk is evidently better digested and assimilated than any other form of nourishment. It is in this form exceedingly bland and unirritating to the renal passages, and affords relief to the engorged and inflamed kidneys. It is given abundantly, and almost exclusively. This form of diet not only serves a good purpose during the acute stages of the disease, but acts well as a prevention of renal sequelæ.

NOTES ON REMEDIES.

Aconite. Bartholow tells us that there are two conditions of this disease, especially requiring the use of aconite—the eruptive stage, and the period of desquamation, if, as is usual, a marked rise of temperature takes place at this period of the disease. Several important purposes are subserved by the use of this remedy; it lowers the fever heat, favors the action of the skin and kidneys, and checks the nasal, faucial and aural inflammations, which constitute such troublesome complications and sequelæ.

Alcohol. Dr. Giles Mitchell reported to the Cincinnati Academy of Medicine, (1883,) forty-three consecutive cases of scarlatina, treated with large doses of alcohol, without a single death. A half ounce of whisky every hour was given to a child two years old, without the slightest symptom of intoxication. When the kidneys became implicated, the alcohol was still used. It always produced a fall of temperature. Dr. John M. Keating, of Philadelphia, endorses this treatment.

Ammonii Spiritus Aromaticus has recently been recommended in the following form by Dr. Sweeting:

352.	℞.	Spiritûs ammoniæ aromatici,	f. ʒ iij	
		Sodii et potassii tartratis,	ʒj	
		Tinct. lavandulæ comp.,	f. ʒ j	
		Aquam,	ad f. ʒ iss.	M.

A teaspoonful every third hour for a child five years old. With this he orders as a diet undiluted sweetened milk, and uses no external treatment whatever.

Ammonii Carbonas is highly esteemed by many authorities. Mr. G. J. S. Camden, (*Medical Times and Gazette*, February 1, 1873,) gives it at

the very onset of the disease, in distilled or cold boiled rain-water filtered. He never gives emetics or aperients, nor bleeds, nor does anything to lower the vital powers. Mr. ERASMUS WILSON (*Diseases of the Skin*) confesses to a strong leaning in favor of ammonia treatment, and, instead of salines, begins, from the first, with a solution of the carbonate of ammonia; 2 or 3 grains for a child under seven years of age, and 4 or 5 grains for a child above this age, dissolved in from 2 to 4 drachms of water, and administered every one, two, three, or four hours, according to the degree of severity of the fever. (See, also, F. 347.)

Argenti Nitras. Dr. EDWARD COPEMAN remarks, in the *St. George's Hospital Reports*, 1870, that for the relief of those severe cases in which there is a profuse ichorous discharge from the throat and nostrils, with disposition to sloughing ulcers in the pharynx, he has seen no local remedy so successful as a free application of a solution of nitrate of silver (from 4 to 8 grains to an ounce), by means of a brush or syringe. Dr. NIEMEYER also recommends the nitrate. He says that, in anginose cases, as soon as the sloughs have been detached, we may touch the ulcers in the throat daily, with a solution of nitrate of silver (℥j to ℥ij water), applied by means of a probang; and for the coryza, we may inject a weak solution of nitrate of silver (gr. v–x to ℥ij water) into the nostrils. Croup complicating angina maligna indicates the administration of an emetic and the application of a solution of nitrate of silver to the glottis.

Baptisia Tinctoria. The electic physicians assert that a gargle prepared from the wild indigo weed, acts specifically in the sore throat of scarlet fever. (SCUDDER.)

Belladonna is said by BARTHOLOW to be useful when the eruption is imperfect or bluish, the peripheral circulation feeble and the heart's action depressed. It is also highly recommended by Dr. HENRY BEATES, JR., of Philadelphia, in the *Medical and Surgical Reporter*, 1883, and Dr. OWEN PRITCHARD (*Lancet*, 1881,) thinks that when given to those who are exposed to the disease it will act as a prophylactic.

Brominium. Dr. W. H. THOMPSON, (New York,) has met with far fewer throat complications since he has used this agent. He employs it as follows:

353. ℞. Potassii bromidi, q. s. ad saturandum
Aquæ, f. ℥ij

To this, add very slowly, and with frequent shaking:

Brominii, f. ℥j
Aquam, ad f. ℥iv.

Of this solution, 1 drachm is added to 1 ounce of water, and a teaspoonful is given in a tablespoonful of sweetened water, as required, the solution being kept in a dark place. As a local application, equal parts of the solution and of glycerine are used, or, in bad cases, the solution alone. Occasional purges of calomel and jalap may be given, until the action of which the antiseptic may be suspended.

Carbolicum Acidum, gr. j–ij to aquæ f.℥j, has been used as a gargle for the sore throat. (See F. 336, 337.)

Chlorini Aqua is very highly praised by nearly all writers. One formula for the chlorine mixture is given above. Another is :

354. ℞. Potassii chloratis, gr. lxxx
Acidi muriatic diluti, f.℥ij
Aquæ, Oij. M.
This amount to be taken in small doses, in the twenty-four hours.

Mr. Erasmus Wilson's formula is :

355. ℞. Potassii chloratis, ℥j
Acidi nitrici diluti, f.℥j
Aquæ, f.℥viij. M.
For a gargle.

Copaiba. Mr. A. Rowand (*Medical Times and Gazette*, February 17, 1871,) gives balsam of copaiba in 4- or 5-drop doses, mixed in ℥ij syrup, and ℥ij mucilage of gum arabic, three or four times a day, with most satisfactory results. Under its use, the tongue and sore throat get rapidly clean and well, and the usual sequelæ do not appear.

Digitalis. Prof. Bartholow declares that, in a considerable experience in the treatment of scarlatina, he has found digitalis uniformly successful, and, taking in a group the ordinary cases of scarlatina simplex and scarlatina anginosa, it is the most efficient remedy we possess. The particular effect of digitalis, in preventing nephritis and other glandular inflammations, has been mentioned in the *Lancet*, January 23, 1869, by Dr. Sydney Fennel. He has used it largely in scarlatina, and says that, when administerd early in the fever, the inflammatory action in the glands of the neck subsides gradually. The fever leaves the patient in the usual time, desquamation is very slight, and the chances of chronic nephritis are reduced to a minimum. He also confidently asserts that the infectious character of the disease is lessened by the remedy, if not destroyed.

Ferrum. Dr. R. Aldridge (*British Medical Journal*, August, 1871,) speaks favorably of the use of iron in scarlatina. He has found if it be given as soon as the disease makes its appearance, that not only does it shorten and lessen the severity of the attack, but it also fortifies the patient against the after consequences—dropsy, etc. The form which he has mostly used has been the liquor of pernitrate of iron, in syrup of glycerine, in doses of 10 minims every three hours.

Hydrogen Peroxide. This substance has been warmly urged in scarlatina, by Dr. John Day, of Australia. His formula is :

356. ℞. Hydrogen peroxide (ozonic ether), ℥iv
Pure lard, ℥iv
Benzoic acid, ℈j
Otto of roses, gtt. iv. M.
To be carefully mixed without the aid of heat.

With this the body of each patient is rubbed, over the whole surface, three times a day. He also prescribes, throughout the whole course of the disease, a mixture composed of 2 or 3 drachms of ozonic ether in ½ pint of water; the dose ranging from a teaspoonful for a child twelve months old, to a tablespoonful for an adult, to be taken every second hour. This is used for the double purpose of benefiting the throat symptoms and disinfecting the breath.

Pilocarpine in doses of $\frac{1}{15}$ of a grain, hypodermically administered, is highly recommended by Dr. FRANK SHEARER, of Edinburgh. (*Glasgow Med. Jour.*, 1884.)

Potassii Chloras, is perhaps the most widely used of all drugs in scarlet fever. (F. 346.) Large doses may be given to the youngest infants, especially in the adynamic type of the fever. It has been amply shown by Dr. DRYSDALE, of Philadelphia, that this salt can and ought to be given far more freely that is usually done.

Quiniæ Sulphas. In malignant cases some have advocated large doses of quinine to obtain decided antipyretic effects. The result of this measure is questionable.

Salicylicum Acidum has been experimented with by Dr. DAVID J. BRACKENRIDGE, of Edinburgh, (*Medical Times and Gazette*, December, 1876,) but his results were not satisfactory. Dr. POWNALL, on the other hand, (*Brit. Med. Jour.*, Dec. 21st, 1878,) claims that it is one of the most reliable remedies. He uses:

357. ℞. Acidi salicylici, ℥j–ij
Syrupi simplicis, ℥iv
Mucilag. tragacanth., ℥j
Tinct. aurantii, ℥iv
Aquam, ad. ℥vj. M.

A tablespoonful every second hour.

Sodii Benzoatis is highly recommended by Dr. DEMME (*Allgemiene Wiener Medizinische, Zeitung*, 1880.) Internally he gives from five to twenty grams daily, dissolved in from one hundred to one hundred and twenty-five grams of water, with the addition of from one to one and a half grams of liquorice juice.

Sodii Sulpho-carbolas. This has been administered by Dr. BRACKENRIDGE in doses of gr. v–xxx three or four times a day, and he asserts that it has proved very beneficial. American experience is against it. Dr. C. S. EARLE, of Chicago, says that not only has it failed to mitigate a single symptom, after the development of the disease, or to diminish the susceptibility of those liable to contract it, but it has seemed to diminish the *vis medicatrix naturæ*, to lessen absolutely the chances of recovery, by its impoverishment of the system. (*Trans. of the Illinois State Medical Society*, 1878.)

Sulphur. The use of this old remedy has been very highly lauded of late. Mr. HENRY PIGEON writes to the *Lancet*, Nov. 25th, 1876, in these words: "The marvellous success which has attended my treatment of scarlet

fever by sulphur, induces me to let my medical brethren know of my plan, so that they may be able to apply the same remedy without delay. All the cases in which I used it were very well marked, and the epidermis on the arms in each case came away like the skin of a snake. The following was the exact treatment followed in each case: Thoroughly anoint the patient twice daily with sulphur ointment; give 5 to 10 grains of sulphur in a little jam three times a day. Sufficient sulphur was burned twice daily (on coals on a shovel) to fill the room with the fumes, and of course was thoroughly inhaled by the patient. Under this mode of treatment, each case improved immediately, and none were over eight days in making a complete recovery, and I firmly believe in each it was prevented from spreading by the treatment adopted." Dr. F. L. Sim, of Tennessee, (*Medical and Surgical Reporter*, Dec., 1877,) has had remarkable success by thoroughly fumigating the child under a blanket, with the fumes of burning sulphur.

Veratrum Viride has been employed to reduce the pyrexia.

EXTERNAL MEASURES.

Baths, of all temperatures, are used. Dr. Hiram Corson is earnest in favor of the cold bath. (P. 296.) Dr. Eddison, and others, prefer baths commencing at 90°–100° cooled down slowly or rapidly to 70°. Danger from "driving in the rash" is asserted to be imaginary. Dr. G. Johnson prefers the warm bath only. Tepid and cold sponging will often be found sufficient. In adynamic cases, with low pulse, pallid skin, and cerebral symptoms threatening, a hot mustard-bath will often have the best effect; or the child may be stripped and wrapped in a sheet well wrung out with mustard water, and then packed in between two blankets. When the temperature reaches 104°, the cold wet pack may be used, and is never followed by any harm. Wring from a wet sheet the water at the ordinary temperature, wrap the child in it, and over that lay one wrung out of iced water. The prompt manner in which the symptoms improve shows the wet pack to be one of the great therapeutic resources in this class of cases.

Inunction with olive oil, fresh butter, bacon rind, cocoa butter, warm benzoated lard, and such preparations, repeated three or four times a day, should be employed. The value of this is that it is the most effectual means of relieving the itching of the skin and the excessive restlessness which is due to the irritation of the peripheral nerves, caused by the heat of the skin. This is relieved more rapidly by oiling than by sponging with tepid water. Oiling, too, is truly antipyretic, reducing the temperature. Another reason for its use is found in the close sympathy found existing between the skin and the kidneys. It is also recommended for its prophylactic properties. (See p. 295.) Dr. L. C. Johnson (*Cinn. Lancet and Clinic*, Sept., 1879,) prefers the following ointment:

358. ℞. Glycerinæ, ℥ij
Acidi carbolici, gr. viij
Olei rosæ, gtt. ij. M.

Anoint with the palm of the hand after the patient has been bathed and dried.

SCLEREMA NEONATORUM.

DR. EDWARD HENOCH, OF BERLIN.

The characteristic feature of this affection is the hardness and rigidity presented to the pressure of the finger by the integument of a large part of the body. In the most extreme forms the body feels as hard as if frozen, though not uniformly in all places. It is accompanied by greater or less diminution in temperature. The affected children are feeble, prematurely born, emaciated, and all of them die. Cases of sclerema are incurable; the patients die in extreme collapse, but sometimes not until the lapse of two or three weeks. The treatment must be confined to dietetic and hygienic measures. Obtaining a good wet nurse is a main indication (if the child cannot nurse, it must be fed with mother's milk drawn from the breast, or with good cow's milk), combined with means for artificial warmth (frictions with warm flannels, warming pans, aromatic baths). Internally we may use small doses of wine.

SCROFULA.

DR. EDWARD HENOCH, OF BERLIN.

Among the drugs that are usually termed "anti-scrofulous," this author prefers iodine, given in combination with iron, as syrup ferri iodidi (5–12 drops three times a day) or with iodide of potassium. If no disturbances of digestion are produced, the remedy must be continued for months, but is contraindicated by the presence or suspicion of pulmonary tuberculosis. He has never observed symptoms of so-called iodism, such as are sometimes described; at the most, there may be severe coryza or erythema in the face or other parts of the body. When circumstances prevent the use of natural mineral baths, we can give salt baths at home, putting from one to five pounds of common salt in the bath. It seems doubtful to our author whether the traces of iodine contained in cod-liver oil possess any specific effect. This much-lauded remedy probably acts rather as an article of nutrition, in the same manner as fatty articles of diet in general, and it is therefore said by some that it may be entirely replaced by olive oil. In his experience

it is far inferior to iodine, and he warns against too large doses, as it readily interferes with digestion. Two or three tablespoonfuls daily are amply sufficient. The inunction of cod-liver oil on the skin, so highly recommended by many authors, he considers objectionable on account of the disagreeable odor and uncleanliness. Nor does he observe any good effects from other lauded remedies, such as Plummer's powders, walnut leaves, etc., and he considers that we only lose time by trifling with these remedies. In addition to this general plan of treatment, the various local affections, such as inflammation of the eye, diseases of the bones, joints, skin and mucous membranes, present a number of indications for special treatment.

DR. FORSTER, OF GERMANY.

According to this writer in *Jahrbuch für Kinderheilkunde*, Band. xxi., Heft 3, scrofulosis is exceedingly common in children, and evidences of it are found in more than half the children dying within the first six months whose bodies are examined. The two objects of prophylaxis are, firstly, to combat the disposition to disease; and secondly to ward off infection. The first indication is fulfilled by providing good food, warm clothing, fresh air, a country life and sea bathing. To save the child from infection we should instill into those who have charge of it the danger that may arise from sleeping with, kissing, living in a small, confined room with parents or relatives already diseased, and insist upon the necessity of efficient ventilation. Infection by food is not so common, but it may be caused by the milk of a diseased cow; boiling the milk removes this danger; and tubercular mothers should not nurse their children. The author evidently considers tuberculosis and scrofulosis as identical, at least, so far as their prophylaxis is concerned.

DR. JOHN M. KEATING, OF PHILADELPHIA.

In the *Medical and Surgical Reporter*, 1882, this teacher says that the treatment of the scrofulous diathesis should be both prophylactic and curative. We should see that our little patients who present this diathesis have plenty of warm clothing, fresh air and sunlight, occasional trips to the sea-side, with salt baths, etc. We should also see that their diet is carefully regulated and nutritious; an important article of the dietary is good, rich milk. The digestive organs should receive a large share of your attention. See that they are in perfect condition and

maintain them so, if possible. You should order a proper amount of physical exercise, with little mental labor.

For the *curative* treatment our sheet-anchor is cod-liver oil, iron and iodine; the two latter may be combined as the syrup of the iodide of iron, or you may use the tr. ferri chlor. An important reinforcement to the cod-liver oil is the lacto-phosphate of lime. Tonics should not be given until you have corrected all evidences of marked intestinal derangement. Alcoholic stimulants must be used in moderation. He prefers the light wines or malt liquors to the stronger stimulants. Local ailments should be especially attended to. For glandular swelling you may use iodide of pot. ℥j, ung. stramon. ℥j, or the ointment of the red iodide of mercury.

For the conjunctivitis he uses atropia sulph. gr.ij–℥j; when phlyctenulæ occur, you may dust with calomel.

The various skin eruptions, bone affections, etc., attendant upon this diathesis, need but little modification of your general plan of treatment.

SPASM OF THE GLOTTIS.

DR. EDWARD HENOCH, OF BERLIN.

The main indication in the treatment of this affection is to build up the system, as it usually occurs in rachitic children. When it becomes necessary to put a stop as rapidly as possible to the enormous frequency of the spasms and the consequent exhaustion of the child, he employs morphia without any hesitation.

359. ℞. Morphiæ acetat., gr. $\frac{1}{6}$–$\frac{1}{2}$
Aq. destil., ℥j
Syr. alth., ℥iv. M.
S.—Teaspoonful two or three times daily.

As soon as the patient becomes quiet and drowsy, its use should be discontinued to avoid toxic effects. The therapeutic consideration of the reflex irritants occupies the first place, if symptomatic treatment is not immediately necessary; protection from cold air, treatment of any catarrh that may be present, purgatives in constipation, anti-dyspeptic remedies in dyspeptic diarrhœa.

SPRUE.

DR. EDWARD HENOCH, OF BERLIN.

According to this author the local treatment of sprue only promises success in the milder cases. Mechanical rubbing is usually sufficient. The attendant should vigorously rub the patches off with his finger, which has been surrounded with fine linen and dipped in water, even if this gives rise to a slight hemorrhage. Whenever a new eruption becomes visible, this operation is repeated. In cases of more severity the case is different. The fungus can be removed by the above method (still better if the finger is dipped in an alkaline solution, 5 parts of chlorate of potash, borax or benzoate of soda to 100 parts of water); but the general disease is the chief factor and relapses will therefore occur continually. Under these circumstances, he has with advantage, repeatedly brushed the entire mucous membrane of the mouth with a solution of nitrate of silver (1 or 2 parts to 100 of water), after the sprue had been rubbed of.

STOMATITIS.

DR. EDWARD HENOCH, OF BERLIN.

He claims that chlorate of potash acts as a specific, and most rapidly in those cases associated with fœtor oris and affection of the edge of the gums:

360.	℞. Potass. chlorat.,	gr. xlv	
	Aq. destil.,	f. ʒiij	
	Syrup. simp.	f. ʒv.	M.

S.—Dessertspoonful every two hours.

The slight pain due to the contact of the remedy with the diseased mucous membrane should not be taken into consideration in view of the surprisingly rapid disappearance of the fœtor and salivation. Many cases recover in five or six days under this treatment; much more rarely we meet with obstinate cases, which resist the employment of chlorate of potash or even grow worse under its use. Under such circumstances, good results are often attained by the local application, two or three times daily of sulphate of zinc (1.0 to 20.0 aq. destil.),

or sulphate of copper (0.5 to 20). As for *noma* or gangrenous ulceration of the mouth, our author says that the treatment must be the most strengthening possible. In order to limit the gangrene caustics are recommended, especially fuming nitric acid, liq. ferri sesquichlorati, concentrated carbolic acid or a thick paste formed of camphor. He has seen no good results from any of these agents. If the soft parts are already converted into a gangrenous scurf, or this has been thrown off, the hot iron alone can do any good, and he advises its use from the beginning as soon as you are sure that noma has developed in the mucous membrane. Pacquelin's thermo-cautery is the instrument best adapted to this purpose. After the gangrene has developed fully, the entire necrotic portion can be removed by a blade-shaped cautery-iron, and care must be taken to remove all the gangrenous tissue, by cutting within the normal tissue. But a favorable termination is not assured, even if the gangrene subsides after the operation, as the children may die from sudden collapse or from some complication, as diarrhœa or broncho-pneumonia. Injections with solutions of carbolic acid, salicylic acid, or thymol, and dressing the wound with charpie dipped in vin. camphorat. should not be omitted.

THERAPEUTIQUE CONTEMPORAINE.

This journal (1882), gives various formulæ that have proved useful in these obstinate diseases of the mouth. The antiseptic gargle of the Brompton Hospital has often proved useful; it consists of:

361.	℞.	Aluminis,	gr. xvj	
		Tinct. myrrhæ,	ʒiss	
		Aq, destil.,	ʒiv.	M.

This may be used to touch the aphthæ and also as a gargle. If the disease proves obstinate, and no beneficial effect is obtained from the above mixture, TOMMASI recommends the following powder:

362.	℞.	Calomel,	ʒss	
		Amyli pur.,	ʒss.	M.

Apply a small quantity of this over the surface of the aphthæ. THOMPSON recommends in the same conditions, the following composition:

363.	℞.	Tinct. opii.,	♏xlv	
		Tinct. catechu,	ʒ ij ss	
		Ac. sulphuric dil.,	♏xlv	
		Aquæ rosæ,	ad ʒ vss.	M.

The points affected should be touched with a camel's-hair pencil saturated with this mixture.

ALFRED VOGEL, M. D. PROFESSOR IN THE UNIVERSITY OF DORPAT, RUSSIA.

364. ℞. Sodii biboratis, ℈j
Aquæ, f. ℥j. M.
To be used to cleanse the mouth, every hour, in cases of *stomatitis* in infants.

This feebly-alkaline solution combats the tendency of the profusely secreted saliva rapidly to become sour. The chest is to be protected against getting wet by a piece of oil-silk, which is secured under the jacket, and the infant is only to be allowed to drink cow's milk, with water. The painful ulcers may be relieved for many hours, and even permanently, by cauterizing them with the solid nitrate of silver.

In idiopathic stomatitis, spontaneous recovery takes place in eight, or, at the longest, fourteen days. Symptomatic stomatitis in febrile disease does not usually call for any particular interference.

365. ℞. Potassii chloratis, ℈j
Syrupi, f. ℥ij
Aquæ, q. s. ad f. ℥iv.

JOHN SYER BRISTOWE, M. D.

The form of stomatitis known as ulcerative, presents itself as excoriated patches on the surface of the gums, cheeks and tongue. There are usually febrile symptoms attending it, but the course of the disease is always with a tendency to recovery, its duration, when not checked, being about ten days. The local treatment required may be carried out with mel boracis, or chlorate of potash in solution. Internally, a little chlorate of potash, or other febrifuge medicine, may be administered.

Gangrenous ulceration of the mouth, or *noma*, is mainly limited to children between the ages of one and five years. It may, at times, become very extensive and destroy life. In the treatment, it is, in the first place, of paramount importance that the patient's strength should be maintained by the regulated administration of food, alcohol and tonic medicines. *Opium* may be of great service. Locally, it is necessary to keep the parts cleansed; to wash them frequently with antiseptic fluids, and to treat the gangrenous tracts themselves freely with

escharotics, of which, probably, the most valuable are pure hydrochloric or nitric acid, and the actual cautery.

NOTES ON REMEDIES.

Alcohol, in the form of lotions of brandy and water, is recommended.

Acidum Hydrochloricum. This is a useful application, applied in a dilute form' combined with honey. It may be used locally, and also swallowed in moderate doses, with benefit. *Nitric acid* is employed in the same manner and with equal advantage.

Alumen may be used either in solution as a wash, powdered and mixed with honey, or by being applied as a powder to the ulcerated spots, several times a day.

Aqua Calcis. In infantile aphthæ, with greenish discharges from the bowels, Dr. DEWEES, of Philadelphia, found great advantage from the use of this alkali, in small quantities, with milk.

Bismuth is recommended to be applied freely in powder.

Gallicum Acidum, on account of its astringent qualities, is of considerable service in many cases.

Mel Boracis is an excellent preparation, and usually readily given to infants.

Mel Rosæ has slightly stimulant and astringent qualities, and may be used in light cases, either alone as an addition to a mouth-wash, or undiluted, or combined with borax or chlorate of potash.

Potassii Chloras is probably the most generally valuable of all applications in infantile stomatitis. It may be used in a simple solution, powdered and rubbed up with honey, or in an atomized solution. Most writers speak of it as quite sufficient to check the disease in nearly every case.

Sodii Boras is, next to the above, the most popular remedy for sore mouth, and is very efficient. A favorite form is the honey of borax. The glycerole of borax, ʒj of borax to ℥j of glycerine, is a convenient substitute.

Sodii Chloras has been found quite as useful as the potash chlorate, and is somewhat more soluble.

Thymi Oleum, or *Thymol*, has proved advantageous in some severe cases. A solution of 1:3000 was used as a lotion, with which the parts were syringed.

TRISMUS NEONATORUM.

DR. EDWARD HENOCH, OF BERLIN.

According to this author, drugs are of but little use in this disease. Chloral is the only remedy, under whose use (one grain hourly) he has seen two cases of trismus neonatorum recover. If the drug can-

not be swallowed, two grains should be given hourly by enema. He has obtained temporary relief from tincture of opium, (one drop every two hours,) while the narcosis lasted. On account of the extremely unfavorable results of all treatment in this disease, so much more importance must be attached to careful prophylaxis. Among the causes to be avoided, he enumerates:

First, Injuries which affect the umbilicus. In two of his cases, the remains of the cord had been forcibly torn off the day after birth, and the wound of the umbilicus was surrounded by an inflamed zone.

Second, The effects of thermal irritants on the skin—on the one hand, early exposure to cold air, (for instance, on account of baptism), and, on the other hand, too hot baths. This occurred in Elbing, where, in the practice of a busy midwife, trismus was endemic for a number of years, and hundreds of children died in consequence. It was finally discovered that the midwife could not distinguish a temperature of 33° from that of 28°, and not until the thermometer was employed did the epidemic terminate. Attention must also be paid to the condition of the kidneys, since uræmic processes (resembling trismus neonatorum) may appear at this time of life.

NOTES ON REMEDIES.

Chloral has cured one case for Dr. WELCH (*British Medical Journal*, 1881).

TUBERCULOSIS OF THE ABDOMINAL ORGANS.

DR. EDWARD HENOCH, OF BERLIN.

We often have tubercles in the spleen and liver, occasionally in enormous numbers, some large, some small, so that they can hardly be recognized by the naked eye. The peritoneum, great omentum, the serous coat of the liver and spleen, the diaphragm, intestines, etc., constitute with almost equal frequency the seat of miliary tubercles, which are also found in the kidneys, most rarely in the internal genitalia of little girls. The most prominent feature is the gradual increase in the size of the abdomen, which is usually regarded at first as gaseous distention, but in time arouses anxiety and causes the parents to seek medical aid. The first glance at the abdomen will arouse the suspicions of an experienced physician; after the distention of the abdomen has

steadily increased for a number of months, it finally presents an elliptical curvature; the abdominal walls are very tense, even shining, and the epigastric veins are dilated into bluish cords, which show through the skin. The appetite suffers at the same time; the children grow thin, and when the affection is fully developed, the contrast between the hemispherical prominent abdomen and the emaciated lower limbs is quite characteristic. Many children complain from the beginning of colic pains in the abdomen and tenderness on pressure. When the abdomen is very markedly distended, examination by percussion and palpation very often indicates the presence of an accumulation of fluid. In many cases these symptoms are complicated by diarrhœa, which resists all treatment or returns after short intermissions. Death occurs either from an accidental complication or from exhaustion. The treatment, as might be supposed, is unsatisfactory. It must be supportive and hygienic, treating special symptoms as they arise. But sooner or later the children die from exhaustion, on account of the constant diarrhœa, the tuberculosis of other organs, and the hectic fever.

TYPHOID FEVER.

DR. EDWARD HENOCH, OF BERLIN.

This author considers that the former notion, with regard to the rarity of typhoid fever in children, is erroneous. He never employs cold baths, unless the temperature at night reaches 40° R. or more, and he confines himself to two baths daily, their average temperature being 25° R. and never below 22°. These baths act favorably in many children by making them feel better generally, and temporarily relieving severe nervous symptoms that may be present. The duration of each bath should not exceed from five to eight minutes. Symptoms of collapse (tremor, coldness of the hands and feet, small pulse, pinched expression,) may develop after the bath and constitute a decided contraindication against their continuance. In milder cases he applies an ice bag to the head and abdomen. When there is great restlessness he uses luke warm baths of 26–27° R., which not infrequently produce a sedative effect. In milder cases, no active antipyresis, by means of drugs, is requisite. A mild fluid diet (milk, broth) and four to five

spoonfuls of wine, according to age, are amply sufficient; and when a prescription must be given, as in private practice, we may order hydrochloric acid in minute doses. In more severe cases, he replaces the cold bath by large doses of quinine a few hours before the nocturnal exacerbation, and he not infrequently employs it in combination with the baths. According to the antipyretic effect, the quinine is repeated every day or every other day. When the diarrrhœa is profuse enough to call for special treatment, he gives subnitrate of bismuth or tannic acid, with extract of nux vomica or tincture of nux vomica. Constipation may be relieved with castor oil or an enema of water. As a rule, no attention need be paid to the bronchial catarrh. When it is very extensive or terminates in broncho-pneumonia, he orders:

366. ℞. Camphoræ, gr. ss
Acid benzoic, gr. j
Sacch. alb., gr. v. M.
S.—Give this powder every two hours.

As soon as symptoms of collapse become noticeable, he gives port wine (a tablespoonful every two hours),, musk, camphor, or subcutaneous injections of sulphuric ether. When great restlessness and insomnia are present, he uses hydrate of chloral by the mouth or by the rectum. Above all, we must be careful to continue the fluid diet for a week after the cessation of the fever.

M. JULES SIMON, OF PARIS.

This author (*Medical and Surgical Reporter*, 1881,) says that the treatment of typhoid fever in children differs essentially from the treatment instituted for the adult. No dependence can be placed on active medication, or on any special remedy; a series of indications exists, however, which must receive proper attention.

These may be summed up in the phrase, "Sustain the vital forces; excite or calm the nervous system according to the state of the patient; seek to recall the cutaneous functions." During the first days the use, in abundance, of mild emollient drinks, is plainly indicated.

Acidulated drinks are to be preferred, as they are refreshing and most agreeable to take. This will suffice at first, but after four or five days the administration of alcoholic preparations may be commenced. Alcohol acts as an excitant in certain doses, but on the other hand it is a well established fact that in disease accompanied by high fever it

lowers the temperature and sustains the rapidly-failing vital forces. The form under which alcohol is administered matters little; brandy, rum, or Madeira wine may be indifferently employed, proper attention being, of course, paid to the dose administered.

During the first period of the malady the child is, as a rule, constipated; but the scene soon changes, intestinal hypersecretion supervenes, and diarrhœa, accompanied in some cases by violent colic. In such cases, emollient fomentations should be applied over the abdomen, and enemata administered, containing two or three drops of laudanum, for a child from five to seven years of age. After two or three days of such treatment, and often sooner, the abdominal pains will become less intense and the meteorism less marked.

Every three days a small dose of some mineral purgative water may be given, not with the object of purging the little patient, but in order to clean out, as it were, the digestive tube.

Every day enemata of water, containing, if desired, some antiseptic substance, may be administered. In order to excite cutaneous secretion, the whole body should be sponged with lukewarm water containing a little aromatic vinegar.

Cold baths should not be employed in the treatment of infantile diseases; moderately warm baths give equally good results, without presenting the dangers of immersion in cold water. The patient should, if possible, be moved from one room to another, morning and evening. The object of this practice is to prevent the prolonged sojourn of the infant in a room where the air is poisoned by the excretions and exhalations engendered during the course of the disease. The most absolute silence, and a darkened room, free from inopportune visitors, will prove of benefit. The diet should be very mild, milk and broths being the staple articles used for the alimentation of the patient.

To sum up, the treatment of ordinary typhoid fever, running its course without notable complications, should consist in directly sustaining the forces by a milk diet, with broths and alcoholic preparations; and indirectly by diminishing the intestinal secretions and combating the active principle of the disease by washing out the digestive tube, by frequent change of air, etc.

TREATMENT OF COMPLICATIONS.

1. *Abdominal Symptoms.*—When abdominal symptoms are spoken of, super-purgation and intense abdominal pains are generally under-

stood. The absorbents and mild astringents should be employed in such cases; as much as ten grams of creta preparata per diem may be administered in a mucilaginous julep, or four grams of subnitrate of bismuth in sweetened water. Enemata of starch, containing four or five drops of tinct. opii, may be administered; the dose of opium being gradually but cautiously increased.

In conjunction with this treatment, emollient poultices should be applied over the abdomen, but the diarrhœa may possibly not be arrested for four or five days.

2. *Thoracic Symptoms.*—The most frequent are generalized bronchitis and congestions of both lungs. Emetics should, in general, be avoided. Ipecacuanha, senega, and the preparations of antimony, should not be employed. All these medicaments would but depress the vital forces of the patient, if they did not even destroy him.

Dry cups may be applied over the chest, morning and evening; this is a simple, but powerful means of revulsion, always at the disposal of the physician.

Insist on the alcoholic preparations, which you may prescribe at the dose of from five to seven drachms, adding, if necessary, a small quantity of extract of quinquina.

If dyspnœa should become very urgent, a flying blister should, without hesitation, be applied on the chest, and should be left about three or four hours in situ, but never more than five or six. Thus applied, it will suffice to produce irritation of the skin; after its removal a large warm cataplasm may be applied, to aid in bringing about the serous effusion under the epidermis. We should not deprive ourselves of an agent of great power, particularly in children, in the dread of producing an eschar; it is true that this accident happens more frequently in typhoid fever and in cachectic conditions of the system, but its occurrence may always be prevented by removing sufficiently soon the blistering agent.

3. *Cerebral Symptoms.*—These are the symptoms against which therapeutic agents have least power. If the child presents symptoms of great cerebral excitation, chloral may be administered in the dose of 15 or 30 grains, or an enema, containing 15 grains of chloral, 15 grains of camphor, and the yolk of an egg, may be prescribed. Bromide of potassium should be given only as a last resource, and never for more than two days consecutively.

4. *Hemorrhage.*—Intestinal hemorrhage during the course of typhoid fever is rare in children; epistaxis is of more frequent occurrence. There is one simple mode of arresting hemorrhage from the nose, which generally proves efficacious. Agaric is cut in long strips, about half an inch in width; these are introduced as deeply as possible, until the nostril is filled; then another is applied transversely across the external opening, and the whole is kept in place by a roller passed around the head. Sometimes it is necessary to saturate the agaric in tincture of ferri perchloridi.

Plugging the posterior nares with the aid of Belloc's instrument should be avoided; it is very difficult of accomplishment, on account of the restlessness of the child; it induces nausea, and gives no better results than the other method.

When hemorrhage from the intestine occurs, administer two drops of tr. ferri perchlor., every half hour or every second hour. If this does not suffice, give cold drinks, place compresses wrung out of cold water on the abdomen; internally give pounded ice, which, when mixed with pulverized sugar, is taken without repugnance.

5. *Accidents through Compression.*—Redness and eschars are induced on the parts which support the weight of the body; they appear oftenest on the sacrum. An attempt should be made to prevent these accidents; the pelvis of the child should be supported on an air pillow about two-thirds filled; the parts should be sponged with an infusion of oak leaves, or with some other astringent preparation.

In *ataxo-adynamic* forms, characterized by delirium with prostration, a blister should be immediately applied to the back of the neck; and when the first has become dry, a second may be applied in the same place.

Finally, in *adynamic* forms, in those accompanied by much prostration, tonics and substances acting as stimulants to the nervous system must be insisted on. If necessary, the patient may be plunged into a cold bath; a few seconds' immersion produces remarkable excitation; but this is a means which should be employed only after having in vain tried all the others.

DR. COLEMAN, OF VIRGINIA.

"Masterly inactivity," according to this author (*Virginia Medical Monthly*, 1879), is the principle required in treatment. A nervine now and then, mild diuretics and occasional enemata. As the child

grows beyond five years of age, the disease more and more resembles the fever as it is found in adults; and by the age of ten years it loses almost entirely its distinctive infantile form.

He has seen the disease in children ranging from eighteen months to five years of age. It is marked by a daily double rise of temperature and corresponding remissions. Its critical days are the seventh and its multiple. The cutaneous abdominal eruption is much more common and marked than in the typhoid fever of adults. Besides, in the typhoid fever of children diarrhœa is absent; and it is this absence of a usually prominent symptom in adults that makes the disease more or less obscure in children. This absence of diarrhœa in the typhoid fever of children is due to the fact that in them, up to five or eight years of age, Peyer's glands are rudimentary, and therefore do not suffer from the effects of the typhoid poison, as in the case of adults. It is a peculiar fact that the typhoid fever of old people simulalates very much that of children, although it is not so wanting in risk. Dr. COLEMAN regards typhoid fever as contagious, but as less so than scarlet fever. He believes the true cause why typhoid fever is not more frequent among adults is, that they had the disease in childhood. He has never seen a patient under ten years old die with typhoid fever, which favorable result, he thinks, is due to the undeveloped state of Peyer's glands.

VESICAL SPASMS.

MM. D'ESPINE AND PICOT, OF FRANCE.

These authors consider that this form of spasm is of more frequent occurrence than is generally supposed, (*Manuel des Maladies de l'Enfance*). It is sometimes seen in the new-born child, and is due in them to the accumulation in the bladder of urates of ammonia, which are of frequent formation in the kidney at this period of life. In very young children, the sudden suppression of urine, accompanied by agitation, should lead one to a suspicion of vesical spasm. In older children, frequent desire to urinate will be expressed, but such pain will be induced in attempting to pass water that the child will dread the attempt, and all trouble will cease on the spontaneous or instrumental evacuation of the urine. In very young children, sweet emollient

drinks may be given, to aid in the elimination of the urates. For older children, warm cataplasms should be placed over the lower part of the abdomen, the child placed in a warm bath and encouraged to urinate therein, an ointment containing belladonna applied, and when the spasms recur, flannel drawers should be worn. BOKAI recommends, also, suppositories and enemata containing small doses of opium.

VULVITIS—APHTHOUS.

DR. PARROT, OF FRANCE.

This author contributes to the *Revue de Médecine*, 1881, an exhaustive treatise on this disease, founded upon an experience of 56 cases. While the vulva, especially the labia majora, and less often, the labia minora and clitoris, are the constant seat of the disease, it may involve the perineum, margin of the anus, the genito-crural folds, and groins. At the onset, it consists of small rounded or semi-spheroidal elevations of the epidermis, pale or greyish white, often depressed in the centre. The second stage is marked by ulcers with a grey or yellowish base, accompanied oftentimes with severe pruritus. Under unfavorable conditions, the ulcers give place to gangrene, which may spread to an enormous extent. In the first stages the systemic involvement is slight, but when gangrene occurs severe constitutional symptoms set in, which may prove fatal. It is difficult to state the duration of the disease, but the most intractable ulcers yielded to treatment in eight days. Dr. PARROT does not hesitate to give a favorable prognosis in all cases.

The *treatment*, whatever the stage of the disease, is to cover all the affected area with a uniform layer of iodoform, and over that a covering of lint. One application will often effect a cure, and rarely are more than three necessary, at intervals of twenty-four hours, preceded by careful washing of the parts.

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